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ABSTRACT

Numerous sources of data about family incomes, taxes, wages, unemployment, wealth, and poverty were used to analyze the impact of the economy on living standards in the United States in 1994-1995. It was discovered that most individuals in the United States are worse off in the 1990s than they were at the end of the 1970s. Between 1979 and 1989, family income grew more slowly than in any other business cycle since World War II. Despite recent progressive changes in tax laws, the federal tax system has continued to favor wealthy families. Most people are working longer for less. Underemployment is worsening, and the continued rise of part-time and temporary employment has triggered long-term erosion in economic security, benefits, wages, and opportunities for training and advancement. Rapid increases in the value of financial assets coupled with stagnation of the value of tangible assets has further increased the gap between the upper and middle classes. Poverty rates have remained high and unresponsive to economic expansion, and health care expenditures have continued to increase without any concomitant increase in health outcomes. Among developed countries, the United States is falling behind in productivity and wage growth. (Contains 303 taables/figures and 160 references.) (MN)

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the State of Working America

1994-95

Lawrence Mishel
Jared Bernstein

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The State of Working America

1994-95

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The State of Working America

1994-95

Lawrence Mishel
Jared Bernstein

Economic Policy Institute

M.E. Sharpe
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To Eli, Julia, Daniel, Jessica, Eric, Stephen, and Jessie,
my family's next generation. May they and their cohort
enjoy a prosperity not currently available.

L.M.

To my friends Joel, Justine, Arlen, Doc,
Victor, John, Sue, and Chris.

J.B.

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The State of Working America

1994-95

Executive Summary

Using a wide variety of data on family incomes, taxes, wages, unemployment, wealth, and poverty, *The State of Working America 1994-95* closely examines the impact of the economy on the living standards of the American people. The story we tell is one of great disparities.

As this edition goes to press, the economy is in an expansion and producing jobs at a rate consistent with earlier recoveries. Nevertheless, the economic problems of the 1980s continue to be felt. For example, despite growth in both gross domestic product and employment, median family income actually fell in 1993 (for the fourth year in a row), leaving incomes $2,737 below their 1989 level. It is highly uncharacteristic for the median income to fall this late in a recovery, and this development underscores the current disconnect between overall growth and the typical family's economic well-being. Moreover, the 1980s' trend in income inequality and the middle-class squeeze show signs of continuing, and even accelerating, in the 1990s.

Deteriorating wages, which are primarily responsible for the slow growth in incomes and widening inequality in the past, have not only deteriorated further in the 1990s, they have also dragged new groups of workers down with them: the wages of male college-educated workers are now falling as fast as those of male high-school-educated workers. In the 1980s, families compensated by working longer and having more family members join the labor force, a trend that may be reaching its maximum capacity. As a result, middle-class incomes continue only modest growth, wealth continues to accrue disproportionately to the already wealthy, and poverty rates remain intractable even in the midst of a recovery. If such trends were the way of the world in the 1990s, the American worker might find some solace, but that is not the case: on many important economic indicators, such as productivity and compensation growth, the United States lags behind its industrial competitors.

To be sure, some bright spots have appeared, primarily in the federal tax code. Recent changes are expected to lower the liability of the poorest families by $170 (a 28% decrease) and raise the liability of the wealthiest by almost $30,000 (an 18.5% increase). The increase in the Earned Income Tax Credit is largely responsible for boosting the earnings of poor workers.

Nevertheless, the majority of Americans remain worse off in the early 1990s than they were at the end of the 1970s. The following is a summary of the economic realities that characterize the state of working America.

Family Incomes: Slow and Unequal Growth

Between 1979 and 1989, family income grew more slowly than in any other business cycle since World War II. By the end of that 10-year period, the median family's income had grown by only $1,621; in the 1967-73 period it grew that much every 22 months. All of this gain and more was lost between 1989 and 1993, as the median fell by $2,737. The fact that median family income fell this late in a recovery underscores the extent of current income problems in the United States.

Thus, the sluggish growth of income that developed over the last decade continues to drive income trends today. Furthermore, the slow rate of income growth between 1979 and 1989 did not affect all families equally. During the 1980s, the incomes of families at the top of the income scale—the richest 1%—grew 62.9%, representing 53.2% of the total income growth among all families. The bottom 60% of families actually experienced a decline. Such uneven growth led to a substantial increase in the wealthiest families' share of total income (their income share grew by 4.4 percentage points between 1980 and 1989, to 51.8%) and equally dramatic losses for everyone else, thus reversing the entire post-war trend toward lessening inequality.

What income growth there was over the 1979-89 period was driven primarily by more work at lower wages. In fact, the only family type to experience positive income growth was married-couple families, whose incomes grew due to the increased earnings of wives. Among married couples with children, wives were employed on average 32.3% more hours in 1989 than in 1979, the equivalent of nearly seven weeks of full-time work. However, this source of income growth is inherently limited, and since 1989 the rate at which married wives participated in the labor force has slowed. Whether this trend is the inevitable "topping out" or a cyclical effect is yet to be determined.

In addition, families headed by someone age 25-34 in 1989 had incomes $1,715 less than their counterparts did 10 years earlier. There is strong evidence that most families headed by someone born after 1945 will not achieve the same incomes in middle age as did preceding generations.

Finally, the economic downturn saw the typical family experience an income loss of 6.9% between 1989 and 1993, despite the recovery that began in mid-1991. The character of this recessionary decline was unusual in that the incomes of the wealthiest families initially fell the most, partly reflecting the adverse trends that developed in the late 1980s (before the onset of the recession), such as the decline in wages for white-collar and college-educated workers. However, between 1991 and 1992 income growth reverted to its 1980s' pattern, with families in the top fifth gaining and the wealthiest families gaining the most. Income inequality continued to grow in 1993 and, despite the general loss of income since the downturn, income shares are more unequally distributed after two years of recovery than they were in 1989. In 1993 the richest 20% of families received 46.2% of all income, the largest share recorded for that group since data collection began in 1947.

Taxes: Despite Recent Progressive Changes, a Further Cause of Worsening Inequality

Between 1977 and 1989, tax changes worsened the distribution of after-tax income by taxing the middle class and the poor more heavily and giving large tax cuts to the richest 1%. Regressive federal tax changes between 1977 and 1989 amounted to an average tax break of $52,621, in 1989, for the richest families. Thus, federal, state, and local taxes have not ameliorated the pre-tax income problems documented in Chapter 1.

The Clinton tax package of 1993, however, generally restored some progressivity to the federal tax code. The overall effective rate (taxes paid as a share of pre-tax income) for the richest families grew 5.2 percentage points as a result of the Omnibus Budget Reconciliation Act of 1993, leading to an 18.5% rise in the tax liability of those families. At the bottom of the income scale, the liability of the poorest 20% of families fell 28.2%, primarily due to an increase in the Earned Income Tax Credit.

Despite even these progressive changes, the post-1977 shift in the federal tax system is still projected to deliver a hefty $15,674 tax cut to the wealthiest families in 1995. The causes of this shift include a personal income tax that remains slightly less progressive even after the recent changes, higher payroll taxes, and lower corporate taxes. There has also been a steadily increasing reliance on state and local taxes, which tend to be regressive.

Overall, taxes have increased little, and the total U.S. tax burden (federal, state, and local) remains one of the lightest among the Western industrialized countries. While the U.S. tax burden gradually edged up during the post-war period, it has held relatively constant since 1973 (between 31% and 32% of gross domestic product). However, while the federal burden has grown by only 1.4% of GDP since 1959, the state and local burden has grown by 4.5%. Since state and local taxes are more regressive than federal taxes, the effect of this shift in the tax burden is to widen inequality.

Wages: Working Longer for Less

Wage trends have been the primary determinant of the slow growth in income and the greater income inequality experienced in recent years. This should not be surprising, since wages and salaries make up roughly three-fourths of total family income and an even higher percentage among the broad middle class.

From 1979 to 1993, in terms of either wages or total compensation (both wages and benefits), the real hourly pay of most workers was severely eroded. The groups experiencing the greatest drop include the three-fourths of the workforce with less than a college degree, the bottom 80% of men, low-wage women workers, younger workers, and blue-collar workers. This widespread wage erosion has meant a continuing growth in the proportion of the workforce earning less than poverty-level wages and a shrinkage in the share of workers, especially men, who earn mid-level wages.

The most severe wage reductions, however, have been for entry-level jobs for young high school graduates, a group comprising two-thirds to three-fourths of all young workers. In 1993, the wages paid to young male and female high school graduates were, respectively, 30% and 18% less than the wages their counterparts received in 1979. Similarly, the wages of entry-level college graduates fell 8% among men (but rose 4% among women).

Starting in 1987 and continuing through the current recovery, however, wages began falling for groups, such as white-collar and college-educated men, that previously had escaped the downward pressure on wages. The decline in wages for these groups is the consequence of the end of the white-collar employment boom of the 1980s and continued corporate restructuring. Meanwhile, the wages of those who lost the most in the 1980s (high school graduates, blue-collar workers, and men) have continued to fall. By the end of the 1980s, the only educational group seemingly exempt from falling real wages was the 8% of the workforce with advanced or professional degrees. These adverse wage trends persisted through the first two years of the current recovery: by 1993, the wage trends of the 1990s looked very much like those of the late 1980s.

While economists continue to grapple with explanations, a number of factors seem to account for most of the shifts in the wage structure. These include significant institutional shifts, such as a severe drop in the value of the minimum wage and deunionization, the expansion of low-wage, service-sector employment; the increasing globalization of the economy through immigration and trade; the growth of small business and contingent work (temporary and part-time) arrangements; and a weakened effect of unions on nonunion wage patterns.

Many policy makers have cited a technology-driven increase in demand for "educated" or "skilled" workers as the significant force behind wage inequality. Yet there is evidence that the overall impact of technology on the wage and employment structure was no greater in the 1980s than in the 1970s. Moreover, skill demand and technology have little relationship to the growth in inequality among workers with similar levels of experience and education, where half of the overall growth of wage inequality in the 1980s can be found. Technology has been and continues to be an important force; but there was no "technology shock" in the 1980s, and no ensuing demand for "skill" that could not be satisfied by the continuing expansion of the educational attainment of the workforce.

It is also difficult to see a "bidding up" of the wages of "more-skilled" and "more-educated" workers when the wages of many college graduates and white-collar workers, especially men, have fallen each year since 1987, including the years of the recent recovery. Moreover, it is misleading to label as "less educated" or "less skilled" a group comprising three-fourths of the workforce (and whose educational attainment ranges from high school dropouts to holders of associate degrees from two-year colleges).

What does the future hold? The persistence of growing wage inequality in the first four years of the 1990s and the expected continuation of the forces that led to the recent growth of inequality suggest that wage inequality will continue to grow. Offsetting trends, such as a rapid expansion of college graduates in the workforce, do not seem to be materializing. The consequence will be median male wages continuing to fall 1% annually and modest growth of 0.5% for median female wages, with entry-level wages of high school graduates continuing to plummet. The only optimistic scenario is a pickup in productivity growth, as anticipated by a small minority of economists. Under this scenario the male median wage would neither fall nor grow, and women's wages would grow 1.5% yearly. It is unlikely that entry-level wages for high school graduates would improve over the next 10 years.

Jobs: Worsening Underemployment

In late 1992, over a year after the current recovery began, the economy shook off its "jobless recovery" label and began producing jobs at a pace similar to that achieved in earlier recoveries. Yet, despite the historically modest rise in unemployment during the recent recession, the relatively weak expansion has left involuntary part-time work unusually high, and labor-force participation actually has fallen. The heavy reliance on temporary jobs—20% of all private-sector jobs created—is another worrisome dimension of the recovery.

As is the case with income and wages, the labor-market problems of the 1980s continue to drive the current employment situation. Despite the relatively moderate unemployment rate of 5.3% in 1989, the underemployment rate (including involuntary part-time and discouraged workers) in that year was 9.8%. Underemployment in 1993 was one-fourth greater than in 1989—12.6%.

The recent recession differed from other downturns in that the rise in unemployment was more white collar and brought about by more permanent job loss than might have been expected. Sluggish white-collar job creation in the late 1980s and the white-collar nature of the recession signaled the end of the service-sector boom of the mid-1980s.

The rise of part-time and temporary employment has led to a long-term erosion in economic security, benefits, wages, and opportunities for training and advancement. The increase in these and other types of "contingent" work reflects the types of jobs employers want to create rather than any change in preference by the workforce. That is, many people are working in part-time or temporary jobs because they cannot find full-time or permanent jobs.

Low-paying self-employment has also expanded, as has multiple jobholding (reversed, partially, among men in the 1990s) primarily fueled by insufficient wages. The character of employment has shifted decidedly: a much larger proportion of the workforce is either underemployed, overemployed, low paid, or trapped in unfavorable job situations.

Wealth: Enriching the Wealthy, Creating Financial Insecurity for the Majority

Stagnant incomes and falling wages tell only part of the story of rising inequality. A family's ability to cope with financial emergencies and to plan for the future is affected by its wealth.

The distribution of wealth is even more concentrated at the top than the distribution of income. In 1983, for instance, the richest 1% of families controlled 33.7% of household net worth but received 13.4% of household income. Over the 1983-89 recovery, the distribution of wealth became even more concentrated. In fact, the vast majority of the accumulated household wealth over the 1983-89 period accrued to the very richest families, while wealth among the bottom 40% actually fell.

The main cause of greater wealth inequality was the fast growth of financial assets—stocks and bonds—owned primarily by the wealthy and the stagnant growth of tangible assets—homes and consumer durables—owned primarily by the broad middle class. Financial assets grew at an annual rate of 2.9% from 1979 to 1989, about six times the growth rate in the 1973-79 business cycle. Tangible assets in the 1979-89 period, on the other hand, grew at an annual rate of 0.3%. In the 1990s, overall wealth per adult has actually declined, driven primarily by the nearly 13% decline in the value of tangible assets. These trends suggest a growing inequality of wealth in the 1990s, with reduced wealth for a large segment of the population.

Poverty: High Rates Unresponsive to Economic Expansion

Despite a growing economy between 1983 and 1989, poverty rates were high by historic standards, averaging 13.6% from 1979 to 1989. As expected, poverty increased in the recession of 1990-91, but it continued to rise in 1992 and 1993 despite the ensuing recovery. The evidence shows that the particular structure of economic growth over the 1980s and early 1990s has severed the historic link between growth and falling poverty.

Those in poverty in 1992 were significantly poorer than the poor in 1979. For example, 10.5% more poor persons had incomes at 50% of the poverty line in 1992 than in 1979. Furthermore, these high rates are not sensitive to different measurement choices; poverty has grown since 1979 given any accepted definition.

Minorities and children were especially vulnerable to the high poverty rates. The poverty rate for blacks has been at least three times that of whites since 1979, reaching 33.1% in 1993, and the Hispanic rate climbed from 21.9% in 1973 to 30.6% in 1993. Child poverty grew in all racial categories between 1979 and 1993; by 1993, more than one out of five children were poor. For children under six years old, the rate was even higher, reaching 25.6% in 1993; most alarmingly, among young black children *more than half (51.7%) under the age of six were poor in 1993.*

Some critics have claimed that poverty was mismeasured over the 1980s and that the economic condition of the poor actually improved. However, our analysis of both the government's official measurement and a series of conceptually more satisfying ways to measure poverty reveals that the general finding of recent high levels of poverty is valid no matter which measure is used.

Others argue that the poor themselves are to blame, either because they formed families more likely to be poor regardless of the expansion (i.e., single-headed families), or because they failed to exploit the labor-market opportunities that prevailed over the decade. Yet the data show that these demographic explanations contributed to the increase in family poverty more in the 1970s than in the 1980s, when economic conditions were more important.

In fact, the problems analyzed throughout this book—the heightened inequality of the income distribution, lessened progressivity of the tax system, and, in particular, falling wages—all conspired to keep poverty rates historically high throughout the decade. Moreover, the "safety net" (the social provision of assistance to those in poverty) grew less effective at providing relief to the poor.

Health Care: Expenditures Exceed Results

Health expenditures in the United States are higher and increasing faster than in any major industrialized country. The $752 billion that Americans spent on health care in 1991 amounted to 13.2% of GDP, 1.7 times the 7.9% spent on average by America's industrial competitors. What does this level of spending mean in terms of costs, access to care, and health outcomes for American workers?

High health expenditures mean large health cost burdens for American families and individuals. Average family expenditures rose from $3,503 in 1977 (in 1992 dollars) to $6,877 in 1992. This rapid rise was not matched by growth in family incomes. Furthermore, the costs were regressively distributed: the 20% of people in families with the lowest incomes spent, on average, 22.6% of income on health care in 1992, while the 5% of people in families with the highest incomes paid just 14.2%.

As for health insurance coverage, 17.4% of the below-age 65 population, or 38.5 million people (including 9.8 million children), were without health insurance in 1992. (Most of the elderly age 65 and above are covered by Medicare.) Just under two-thirds, 62.5%, had employer-sponsored insurance, but firms offering such coverage increasingly are requiring their employees to pay part of the premium. In 1985, 61% of full-time workers in medium and large private establishments received employer-sponsored health insurance for themselves that was paid for entirely by their employer; 42% had family coverage paid wholly by their employer. By 1991, those numbers had dropped to 41% and 26%, respectively.

Lack of insurance has adverse effects on health outcomes. Patients without private insurance who are admitted to hospitals tend to be more severely ill and have a higher risk of death than do privately insured patients. However, such poor outcomes are not limited to the uninsured. Overall, in spite of high expenditures for health care, the United States ranked lowest among eight industrialized countries in infant mortality in 1991; it ranked seventh in life expectancy at birth for women and last for men. In both health measures, there are large differences by class and race that have increased in recent years.

A number of factors help explain high health expenditures. First, the large number of machines and high-tech equipment available encourages relatively large numbers of procedures and tests to be ordered; and underutilization of these machines can raise the cost of each test. Other factors include high administrative costs and high rates of pay for physicians relative to what they receive in other countries. Proposals to impose higher out-of-pocket payments upon consumers in the hopes of reducing utilization and, therefore, costs are misguided: a comparison with other industrialized countries shows that Americans' doctor visits and days in the hospital are already comparatively low.

The relatively poor health outcomes in the United States and the disparities by class and race do not necessarily mean that standard medical treatment in the United States is worse than in other counties. These outcomes reflect disparities in access and possibly quality, as well as severe socioeconomic inequities.

International Comparisons: The United States Is Falling Behind in Productivity and Wage Growth

While Americans still have the highest per capita income as measured by relative purchasing power, the United States is falling behind on many important economic indicators. The U.S. productivity growth rate was 35% of the average of other industrialized countries on an annual basis between 1979 and 1989. U.S. compensation growth, at 0.12% per year, was well below the 1.31% average of America's industrial competitors. U.S. production workers (nonmanagerial and nonsupervisory) in manufacturing saw their hourly compensation fall at a rate of 0.6% per year from 1979 to 1989 while hourly compensation generally grew in other advanced countries. Between 1989 and 1992, U.S. productivity and average-wage growth has accelerated, though it still remains below the average.

Inequality in income and wealth is more evident in the United States than in other countries. Data from the mid-1980s show the United States to have the most dispersed income distribution of nine similarly advanced countries, with both its poorest and richest families furthest from the median. Furthermore, over the 1980s this distance grew more in the United States than in any other country. The relatively large gap between high and low earners that developed over the 1980s in the United States appears to be a major causal factor. The only other country to experience similar wage dispersion was the United Kingdom. However, the nature of U.S. wage inequality is singular in that it was generated by falling wages at the median (for males) and at the 10th percentile (for both males and females). In the United Kingdom wages rose, but at rates much more favorable to higher earners.

However, the relatively large size of America's low-income class is *not* driven by relative differences in market outcomes. In fact, prior to taxes and transfers, poverty (measured as 40% of median family income, adjusted for family size) is higher in most other countries. The American rate in the mid-1980s, 19.9%, was lower than the rate for France, Germany, Sweden, and others. Yet after taxes and the transfer of government benefits, American poverty, at 13.3%, was well above all the other industrial countries. Furthermore, over the course of the 1980s, as all countries generated higher poverty rates, the American safety net became less effective at reducing poverty while other countries' systems of taxes and transfers expanded. Finally, U.S. poverty is the most persistent: in a three-year study tracking families in poverty, 14.4% of U.S. families were poor for the duration of the study, a higher percentage than any other comparable country (for Germany the rate was 1.5%, for France 1.6%).

One area where U.S. economic performance has been highly touted is job growth. It is true that from 1979 to 1989 millions more jobs were created in the United States than in other countries. However, the United States should be expected to have the largest absolute number of jobs, as it is by far the largest country with the greatest population growth. A better indicator is the *rate* of job creation. U.S. employment in 1989 was only 18.7% greater than in 1979, compared to increases of 26.5% in Australia and 20.1% in Canada. By 1992, the United States had replaced the jobs lost in the recession, while Japan and West Germany had posted increases of over 5%. Furthermore, the United States is among the smallest spenders on job training and placement, a policy that increases the likelihood that other countries will continue to outpace the United States in productivity and wage growth.

Introduction

The State of Working America 1994-95 presents a comprehensive statistical portrait of the standard of living of America's working families. The data show that the economy has recovered from the early 1990s recession. Jobs have grown and the unemployment rate has fallen substantially. But the longer-term labor-force maladies of the 1980s (the middle-class squeeze, falling wages among the non-college-educated workforce, growing wage and income inequality) have not been cured, as illustrated by the fact that median family income fell in every year from 1989 to 1993, a period including two years of recovery. Thus, with overall growth restored, the core problem facing working Americans is the long-term erosion of their ability to obtain, and keep, good jobs that sustain middle-class incomes. If present trends persist, then the median hourly wage of male workers will continue to fall 1% annually for the rest of the decade, entry-level wages for high school graduates will fall even faster, and the median hourly wage of female workers will grow only modestly.

The Early-1990s Experience

After several years of sluggish growth at the end of the 1980s, the economy went into a recession in mid-1990 that lasted until March 1991, the "official" beginning of the recovery. By some measures this downturn was short and mild—unemployment rose less and payrolls and output fell less than they did in other recent recessions. In the eyes of working people, however, the recession may have seemed longer. Until well into 1992, unemployment kept rising, median family income kept falling, and the job base failed to expand, giving rise to the label "jobless recovery."

Furthermore, aspects of the downturn belied its description as mild. The fall in incomes and the extent of permanent job loss and displacement were comparable to more severe downturns. Moreover, this recession hit the jobs and wages of white-collar workers, a workforce relatively unscathed in prior downturns.

Now, after more than three years of recovery, the cyclical, or short-run, problems have attenuated. Since mid-1992 there has been a substantial decline in unemployment and steady job creation at a pace attained in prior recoveries. However, the long-term, structural problems that arose in the last half of the 1980s remain. These include widespread wage deterioration, high poverty rates that refuse to fall as expected, widening income inequality, and a "squeezed" middle class that finds itself working more for less.

Many of these structural problems of the 1980s persisted up through 1993 and can be expected to continue. For instance, from 1992 to 1993 the bottom 60% of families suffered significant income losses and poverty grew, even though there was rapid job growth, falling unemployment, and rising average family incomes. Also, the wage gap between the highest-paid workers and those at the middle and bottom has continued to grow in the 1990s at the same pace as in the 1980s. As that gap was widening the median hourly wage was falling, as it did throughout the expansion of the 1980s. The persistence of wage decline and growing wage inequality explains this disconnect between overall economic growth and improved incomes for middle- and low-income families. If the slowdown in the growth of labor-force participation lessens the capacity of families to work more to make ends meet in the 1990s, then the middle-class squeeze may be even tighter in the future. Merely recovering the ground lost since 1989 (roughly $2,700) will require many years of extremely rapid income growth.

Job quality has continued to deteriorate along other dimensions besides wages. Temporary jobs still play a disproportionate role, accounting for a fifth of private-sector job growth in the recovery. The manufacturing job base has been shrinking in the 1990s as quickly as it did in the 1980s. Moreover, the groups experiencing real wage declines now include white-collar and college-educated men; their wages are deteriorating as quickly as those for workers with less education.

Long-Term Wage Decline, Growing Wage Inequality

The continuing deterioration in the quality of jobs has been the central force challenging the economic well-being of most Americans since 1979. In terms of both wages and benefits, the real hourly pay of most workers was severely eroded from 1979 to 1993. The groups experiencing the greatest fall in wages include the three-fourths of the workforce with less than a college degree, the bottom 80% of men, low-wage women workers, younger workers, and blue-collar workers. These drops have meant a continuing growth in the proportion of the workforce earning less than poverty-level wages and a shrinkage in the share of workers, especially men, who earn mid-level wages.

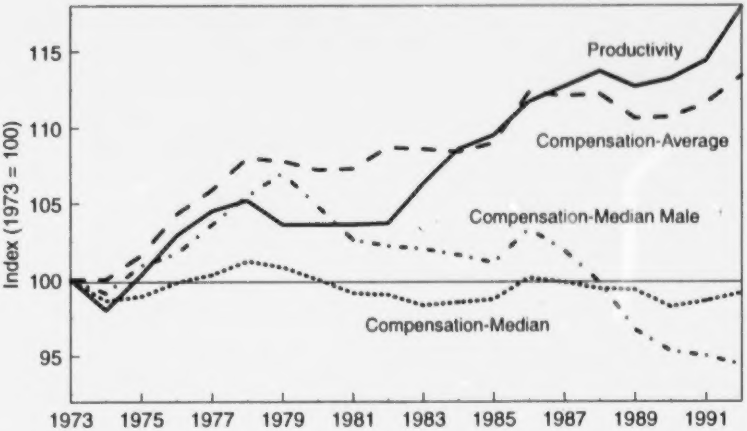
The most severe wage reductions, however, have been for entry-level jobs for young high school graduates. In 1993, the wages paid to young male and female high school graduates were, respectively, 30% and 18% less than the wages their counterparts received in 1979. Similarly, the wages of entry-level college graduates fell 8% among men (but rose 4% among women).

Starting in 1987 and continuing through the current recovery, wages also began falling for groups such as white-collar and college-educated men. The decline in wages for these groups is the consequence of the end of the white-collar employment boom of the 1980s and continued corporate restructuring. Meanwhile, the wages of those who lost the most in the 1980s (high school graduates, blue-collar workers, and men) have continued to fall. By the end of the 1980s the only educational group seemingly exempt from falling real wages was the 8% of the workforce with advanced or professional degrees. These adverse wage trends persisted through the first two years of the current recovery: up until 1993, the wage trends of the 1990s looked very much like those of the late 1980s.

What is driving these wage developments? Productivity is often blamed, but the nearly 1% annual productivity growth since 1979 was better than that of the 1970s. More importantly, rising productivity cannot explain *falling* real compensation for median male workers or stagnant compensation for median workers overall (**Figure A**). Neither does it appear that a shift from wages to benefits, particularly health benefits, is responsible, since the trend in benefits (pensions and health and payroll taxes) has paralleled the trend in wages, including that of growing inequality.

Recent research, including new findings presented in Chapter 3, has identified a number of factors that seem to account for most of the shifts in the wage structure. A severe drop in the value of the minimum wage, deunionization, and other institutional factors can explain one-third of the growing wage inequality among prime-age workers. The expansion of low-wage service-sector employment has contributed 20% to 30%, and the increasing globalization of the economy—immigration and trade—may explain 15% to 25% of the total (the effect of these factors overlap and are

FIGURE A
Productivity and Average and Median Compensation, 1973-92



Source: Authors' analysis.

not cumulative). Other not-yet-quantified factors are the growth of small business and contingent work (temporary and part-time) arrangements and a weakened effect of unions on nonunion wage patterns.

There is little evidence to suggest that technology-driven demand for "more-educated" or "more-skilled" workers is primarily responsible for the widespread fall in wages. This "skills-mismatch" story sees better wage growth among college-educated than among high-school-educated workers as a sign of high demand for "more-educated" workers and falling demand for the "unskilled" or "less educated." There are a number of problems with this interpretation. First, the group facing falling demand cannot easily be considered "less skilled," "low wage," or "less educated" since it includes the *three-fourths* of the workforce without a four-year college degree, including many workers with several years of college, associate-degree holders, and those with a variety of clearly identifiable skills (e.g., technicians, electricians).

Second, the wages of college graduates, which rose a modest 3% from 1979 to 1987, have been falling every year thereafter. By 1993, the wages of these "more-skilled" workers were just 1.2% above their 1979 level and 7.5%

below their 1973 level. In other words, although college-educated workers had a wage advantage in the 1980s, the growth in their wage premium during that time reflects not a "bidding up" of their wages but rather the driving down of the wages of non-college-educated workers.

Third, there are other forces driving wage inequality besides the growth of education differentials. About half the growth of wage inequality over the 1979-89 period was due to the growth of wage inequality among workers with similar levels of education and experience, and there is no empirical research that has shown this "within-group" wage inequality to be significantly related to any skills mismatch.

A fourth problem with the "skills-demand" scenario is that the growth in the college wage premium that did occur partly came about for reasons unrelated to employer demand for skills. For instance, one-fourth of the increase in the college wage premium among women was due to the decline in the real value of the minimum wage. The loss of well-paid manufacturing jobs also led to a growing college wage premium, because non-college-educated workers who would have once found slots in that sector have been increasingly employed at jobs with lower wages and fewer benefits.

Fifth, there are several reasons to doubt that technological change has been an important determinant of the growth of wage inequality since 1979. Since technological change has been an important factor driving the need for a more-educated workforce for many decades, a "technology-based story" of wage inequality in the 1980s would have to have technological change accelerating during that time. However, evidence presented in Chapter 3 shows that the overall impact of technology on the wage and employment structure was no greater in the 1980s than in the 1970s. In fact, there was little relationship between technological change and either the expansion of low-wage work in the 1980s or the growth of inequality. Computerization, the most vaunted technological innovation of the decade, has had an effect comparable to, but not greater than, other types of automation and equipment investment. While technology has been and continues to be an important force, there was no "technology shock" in the 1980s and no demand for "skill" that was not satisfied by the already ongoing expansion of the educational attainment of the workforce.

Sixth, wage trends reflecting a technology-driven skills mismatch do not appear to be developing in most other advanced countries, including Canada, whose economy most resembles that of the United States. As Chapter 8 shows, the emergence of greater wage disparities has been evident only in the United States and Great Britain, the two countries that have moved fastest to "deregulate" their labor markets.

Last, a skills-mismatch story is even harder to fit to wage developments in the early 1990s. As the median wage falls and the wage gap widens as quickly as it did in the 1980s, the college wage premium has been flat, and other education wage differentials have not expanded since 1989. (Note that labor supply shifts cannot account for the failure of education differentials to rise.) At the same time, there has been less "occupational upgrading" (i.e., the movement of workers into white-collar managerial, professional, and technical jobs) in the early 1990s than at any time over the prior two decades. Therefore, the early-1990s data clearly do not reflect a mismatch of skills driving overall wage inequality and falling wages among the non-college-educated workforce. In fact, college-educated workers in the 1989-93 period fared no better than those with less education: among men, wages in each education group have been falling in tandem. Thus, growing wage inequality is no longer connected to rising education wage differentials or to any significant shift toward white-collar employment.

Rather than a "skill deficit," working Americans are confronted by a "wage deficit." More education and training are desirable to help facilitate the diffusion of new work systems and to provide more informed citizens. Skill upgrading can also help to lessen the downward mobility many workers experience when they are permanently displaced from one job and are seeking re-employment. In addition, literacy training and development of basic skills (e.g., basic numeracy and communications skills) can provide needed opportunities for many people. But there is little evidence that improving the higher-order cognitive skills of the non-college-educated workforce will by itself reverse the wage deterioration of recent years or be a major spur to slowing the growth of wage inequality.

What Does the Future Hold?

It is not possible to predict 10 years into the future with any degree of certainty, but it is possible to assess the balance of forces at work and project a likely scenario.

First, the sizeable $2,000 drop in median family income between 1989 and 1992 as unemployment was rising was compounded by the additional $700 loss from 1992 to 1993 as the recovery took hold and unemployment was falling (from 7.4% to 6.8%). It will take 10 years of income growth (at the 1973-89 pace) without a recession before median family income fully recovers from the 1989-93 income losses and returns to its 1989 pre-recession level. The outlook is that incomes will probably grow slowly and wage inequality will continue to grow at the same pace as over the 1979-93 period, with the male median hourly wage continuing to fall 1% annually. Given the slow growth in labor-force participation, there may be less capacity to "work more for less" to support middle-class income growth and to offset the continued wage decline among men.

Overall income inequality may grow more slowly than in the recent past because of the shift toward tax progressivity that will take place through 1995. The 1993 federal tax changes were clearly progressive, significantly increasing the tax burden on the wealthiest 1% of families, substantially decreasing the tax burden on the bottom fifth of families (due to the more generous Earned Income Tax Credit), and leaving the middle class unscathed. The relative decline in capital income (interest income and realized capital gains) in the early 1990s can also be expected to moderate the income growth at the very top. (In contrast, a surge in capital income fueled rapid income growth among the richest 1% in the 1980s.)

The dominant factor shaping future income growth is the change in the level and structure of wages. Assuming no acceleration in productivity growth, average wages should maintain a trajectory comparable to that of recent years. (Some analysts, a small minority, have predicted an acceleration of productivity growth, but we have seen no evidence to support such an optimistic scenario.)

If productivity trends are such that average wage growth continues to be stagnant or very slow (below 0.5% per year), then any group experiencing below-average wage growth will likely experience a real wage decline. Thus, if wage inequality proceeds to grow at its current pace, then the majority of the workforce will suffer real wage losses, as they have since 1979. The prospects for the non-college-educated workforce to recoup some of the economic ground lost in recent years depends (at a minimum) on no further growth in wage inequality and, more hopefully, a reversal of existing wage inequality.

The forces that could lead to such a reversal do not appear to be on the horizon. A surge in employer demand for non-college-educated workers with more skills and education would enhance the possibility of shifting segments of the workforce into better-paying jobs. This has not been happening in the early 1990s, and an analysis of future employment growth by occupation and industry suggests that the skill requirements of jobs will grow at a historically slow pace throughout the decade. Changes in the composition of demand shifts in the future will not be a powerful force for improving overall job quality and pay.

A surge in the supply of college-educated workers in excess of demand could reduce the college wage premium and lessen wage inequality. The continued growth in college enrollment and completion rates is evidence that students are responding to changes in education wage differentials. Nevertheless, a demographic barrier is likely to limit the supply of college-educated workers: the size of the college-age population is shrinking.

Unless they are reversed, the forces that have already led to greater wage inequality will work to open the wage gap further. The expansion of international trade, the continued shrinkage of goods-producing jobs, declining unionization, a falling minimum wage, further immigration, and defense downsizing will create further wage inequality over the next 10 years with the same force as in the 1980s and early 1990s. If so, then the median male wage will fall another 10.4% (from $11.24 to $10.07) and wages for the bottom 80% of men will continue to decline. The median female wage will rise another 4.7% (from $8.79 to $9.21) and high-wage women will still enjoy significant wage growth. Entry-level wages for high school graduates, in this scenario, would likely fall another 24% among young men (from $6.68 to $5.50) and another 13% among young women (from $6.15 to $5.34).

Similarly, there is likely to be a continued expansion of employment paying poverty-level wages and wage erosion among low-wage workers, both male and female. In this context there may even be further growth rather than a reduction in poverty.

Conclusion

Policy discussions have increasingly, and usefully, characterized our options as whether we will follow a "high-wage" or a "low-wage" path. The panorama of indicators of economic performance and economic well-being presented in this book suggests that we have continued to take the low-wage path. The problem is not that a small group of "unskilled" workers are undergoing a painful adjustment to the new economic order. Rather, it is the lowering of wages, benefits, and working conditions of the three-fourths of the workforce without a college degree and the consequent pressure on family incomes. Now that income problems have spread upward to the white-collar and college-educated groups, the beneficiaries of the new economic order are even harder to find.

Documentation and Methodology

Documentation

The comprehensive portrait presented in this book of changes in incomes, taxes, wages, employment, wealth, poverty, and other indicators of economic performance and economic well-being relies almost exclusively on data in the tables and figures. Consequently, the documentation of our analysis is essentially the documentation of the tables and figures. For each, an abbreviated source notation appears at the bottom, and complete documentation is contained in the Table Notes and Figure Notes that begin on page 367. (In some circumstances, however, we incorporate data in the discussion that are not in a table or figure.) This system of documentation allows us to omit distracting footnotes and long citations within the text and tables.

The abbreviated source notation at the bottom of each figure and table is intended to inform the reader of the general source of our data and to give due credit to the authors and agencies whose data we are presenting. We have three categories of designations for these abbreviated sources. In instances where we directly reproduce other people's work, we provide an "author-year" reference to the bibliography. Where we present our own computations based on other people's work, the source line reads "Authors' analysis of author (year)." In these instances we have made computations that do not appear in the original work and want to hold the original authors (or agencies) blameless for any errors. Our third category is simply "Authors' analysis," which indicates that the data presented are from our original analysis of microdata (such as much of the wage analysis) or our computations from published (usually government) data. We use this source notation when presenting descriptive trends from government income, employment, or other data, since we have made judgments about the appropriate time periods for the analysis that the source agencies have not made.

Time periods

Economic indicators fluctuate considerably with short-term swings in the business cycle. For example, incomes tend to fall in recessions and rise during expansions. Therefore, economists usually compare business-cycle peaks with peaks and troughs with troughs so as not to mix apples and oranges. In this book, we examine changes between business-cycle peaks. The initial year for many tables is 1947, with intermediate years of 1967, 1973, 1979, and 1989, all of which were business-cycle peaks (at least in terms of having low unemployment). We also present data for the latest year for which data are available (usually 1992 or 1993) to show the effect of the early 1990s downturn and the extent of the recovery. Some information was available only for nonpeak years; we included these data when we considered it important.

Growth Rates and Rounding

Since business cycles differ in length, we usually present the annual growth rates in each period rather than the total growth. We also present compound (log) annual growth rates rather than simple annual rates. Compound annual growth rates are just like compound interest on a bank loan: the rate is compounded continuously rather than yearly.

While annual growth rates may seem small, over time they can amount to large changes. For example, the median incomes of families headed by persons age 24 and below fell 2.5% per year between 1979 and 1989 (Table 1.3); over the full period, however, incomes declined by a considerable 21.8%.

In presenting the data we round the numbers, usually to one decimal place, but we use unrounded data to compute growth rates, percentage shares, and so on. Therefore, it is not always possible to exactly replicate our calculations by using the data in the table. In some circumstances, this leads to an appearance of errors in the tables. For instance, we frequently present shares of the population (or families) at different points in time and compute changes in these shares. Because our computations are based on the "unrounded" data, the change in shares presented in a table may not match the difference in the actual shares.

Adjusting for Inflation

In most popular discussions, the Consumer Price Index for All Urban Consumers (CPI-U), often called simply the Consumer Price Index, is used to adjust dollar values for inflation. However, some analysts hold that the CPI-U overstated inflation in the late 1970s and early 1980s by measuring housing costs inappropriately. The methodology for the CPI-U from 1983 onward was revised to address these objections. Not all agree that it should have been revised. We chose not to use the CPI-U so as to avoid any impression that this report overstates the decline in wages and understates the growth in family incomes over the last few decades.

Instead of the CPI-U, we adjusted dollar values for inflation using the CPI-U-X1 index, which uses the new methodology for housing inflation over the entire 1967-93 period. The CPI-U-X1, however, is based on small-sample, experimental indices for the 1970s, and there is some slight variation in methods over the entire period. Nevertheless, use of the CPI-U-X1 is becoming standard. Because it is not available for years before 1967, we extrapolate the CPI-U-X1 back to earlier years based on inflation as measured by the CPI-U.

The original data on which we draw were calculated with a variety of price indices, and we readjusted the figures using the CPI-U-X1 whenever possible. In our analysis of poverty in Chapter 6, however, we use the CPI-U rather than the CPI-U-X1, since Chapter 6 draws heavily from Census Bureau publications that use the CPI-U. Moreover, the net effect of all of the criticisms of the measurement of poverty is that current methods *understate* poverty. Switching to the CPI-U-X1 without incorporating other revisions (i.e., revising the actual poverty standard) would lead to an even greater understatement and would be a very selective intervention to improve the poverty measurement. (A fuller discussion of these issues appears in Chapter 6.)

Household Heads

We often categorize families by the age or the race/ethnic group of the "household head," that is, the person in whose name the home is owned or rented. If the home is owned jointly by a married couple, either spouse may be designated the household head. Every family has a single household head.

Hispanics

Unless specified otherwise, we follow the Census Bureau's designation of Hispanic persons. That is, Hispanics are included in racial counts (e.g., with blacks and whites) as well as in a separate category. For instance, in government analyses a white person of Hispanic origin is included both in counts of whites *and* in counts of Hispanics. In some tables (primarily in Chapter 3 on wages) we remove Hispanic persons from other racial (white or black) categories; using this technique, the person described above would appear only in counts of Hispanics.

Chapter 1

Family Income: Slow and Unequal Growth

A person's economic well-being depends upon his or her access to economic resources. Since most Americans live in families in which income is shared, family income is the best single measure of how Americans are doing economically. This chapter examines how the performance of the economy in generating jobs, wages, and income from capital assets has affected the growth of family income and the recent surge in income inequality.

The median family's income fell in every year from 1989 to 1993. This trend is disturbing for several reasons. First, although it is not surprising that incomes fell as unemployment rose between 1990 and 1992, the amount of the decline is greater than what would be expected from an unemployment-rate rise from 5.5% to 7.4%. Second, it is unique in the post-war period to have median family income fall during a recovery year, as it did in 1992-93, when unemployment fell, average incomes rose, and gross domestic product expanded. The only reason that median family income fell from 1992 to 1993 was that the expansion was accompanied by a radical shift in the income distribution in favor of the rich. The introduction of new data-collection methods in preparing the data for 1993 may distort some of the 1992-93 trends, and so some caution is warranted in interpreting these results. Nevertheless, even in the absence of changes in measurement procedures it is probably the case that median family income did fall from 1992 to 1993 and that a significant change in income distribution did occur.

The $2,737 fall in median family income from 1989 to 1993 represents a 6.9% decline. It is very likely that family incomes will not return to their pre-recession 1989 level for at least three or four more years, and probably not before there is another economic downturn.

The income decline during the recession and recovery reflects adverse trends, such as the decline in wages for white-collar and college-educated workers, the income decline in higher-income regions such as the Northeast, and the continuing wage deterioration among middle- and low-wage earners. The income decline, however, comes on the heels of a period from 1979 to 1989 (both years of relatively low unemployment) when family income grew even more slowly than it did in the 1970s and far more slowly than it did in the period between the end of World War II and 1973.

The income growth slowdown in the 1979-89 period did not affect all families equally. Upper-income groups, particularly the upper 1%, experienced significant income growth, while the bottom 60% of families experienced a decline. These opposite movements resulted in a dramatic rise in the income gap between high- and low-income families, thus reversing the entire post-war progress in lessening inequality. The incomes of the top 1% grew 62.9% from 1980 to 1989, capturing 53.2% of the total income growth among all families. Given the fundamental change in the income structure over this period, and its pervasive effect on incomes in the early 1990s, we will focus on 1979-89 changes in income through much of this chapter.

From 1979 to 1989, the income of every type of family, except married-couple families, fell. Among married couples with children, however, there would have been no income growth had there not been an increase in wives' earnings and hours of work. In fact, the bottom 80% of married-couple families with children would have had stagnant or falling incomes from 1979 to 1989 without the increased earnings of wives. Since 1989, however, the rate at which married mothers with children participate in the labor force has slowed. Whether this is the inevitable "topping out" of this trend or a cyclical effect is yet to be determined.

A major factor fueling the growing inequality was the acceleration of capital-income growth in the 1980s due to high real interest rates and the stock market boom, both of which primarily benefited the richest families. In contrast, hourly wages and fringe benefits, which provide support for most families, grew more slowly than inflation. Inequality among wage earners also rose as real wages rose among high-income groups but fell among the broad middle class and lower-income groups. As real interest rates and realized capital gains declined in the early 1990s, capital-income growth fell behind that of wages. In other measures, however, profits and interest kept pace with wages in the early 1990s.

The pattern of increases in wives' hours and earnings lessened income inequality among married couples, but slightly increased inequality among all families.

Not only have incomes grown slowly, they have declined for younger families. A cohort, or intergenerational, analysis of income growth shows that recent groups of young families have started out at lower incomes and obtained slower income gains as they approached middle age. Consequently, families headed by someone born after 1945 may not achieve the same incomes in middle age as did the preceding generation. One result of this development is the slowing of income mobility in the 1980s relative to the 1970s.

In the first few sections of this chapter we examine the changes in the level of income in recent years relative to other periods since 1947. This analysis focuses on changes in median family income for families overall as well as for families differentiated by the age or race/ethnicity of the household head and by family type (married couples, single parents, and so on). In the final sections we turn to the growth of inequality and its causes.

Sluggish Income Growth

Income growth in recent years has been slow and the gains unequally distributed. **Tables 1.1** and **1.2** show changes in family income, adjusted for changes in consumer prices, in various cyclical peak (or low unemployment) years since World War II. As explained in the section on documentation and methodology, examining income changes from business-cycle peak to business-cycle peak eliminates the distortion caused by the fact that incomes fall drastically in a recession and then recover in the upswing (**Figure 1A**).

Family income increased substantially in the two decades immediately following World War II (1947-67). During that time, median family income increased by $13,480, for an annual rate of growth of 2.8% (Table 1.2). Family incomes continued to grow into the early 1970s, but since 1973 have risen slowly. In 1989, the median family's income was $1,448 greater than it was in 1979, translating into growth of just 0.4% per year from 1979 to 1989, just two-thirds the sluggish 0.6% annual growth of the 1973-79 period and only one-seventh the rate of the post-war years prior to 1973 (see **Figure 1B**). In fact, the $1,448 income growth over the 10 years after 1979 equals the amount that incomes rose every 20 months in the 1967-73 period.

It is common practice to also examine measures of family income growth that adjust for changes in family size, since the same total family income shared by fewer family members represents improved economic well-be-

TABLE 1.1
Median Family Income,* 1947-93
(1993 Dollars)

Year	Median Family Income*
1947	$18,099
1967	31,579
1973	36,893
1979	38,248
1989r**	39,696
1992r**	37,668
1993	36,959
Total Increases	
1947-67	$13,480
1967-73	5,314
1973-79	1,354
1979-89	1,448
1989-92	-2,028
1989-93	-2,737

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* Income includes all wage and salary, self-employment, pension, interest, rent, government cash assistance, and other money incomes.

** r indicates revision using 1990 census weights.

Sources: U.S. Bureau of the Census (1993) and unpublished census data.

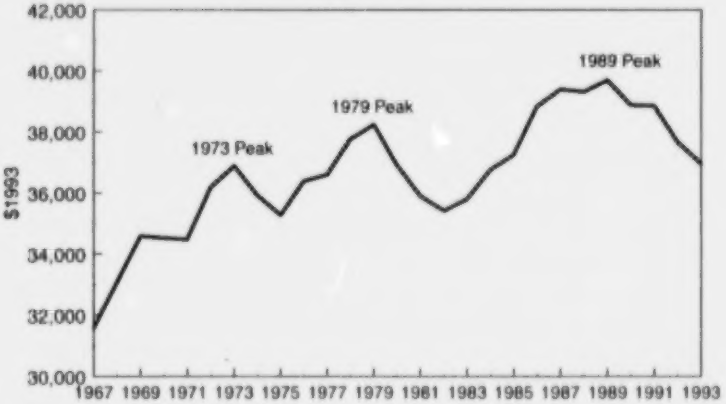
For detailed information on table sources, see Table Notes, page 367.

TABLE 1.2
Annual Growth of Median Family Income, 1947-93
(1993 Dollars)

	Median Family Income Growth		Median Family Income (Size Adjusted)
Period	Percent	Dollars	Percent
1947-67	2.8%	$674	n.a.
1967-73	2.6	886	n.a.
1973-79	0.6	226	1.3%
1979-89	0.4	145	0.6
1989-92	-1.7	-676	n.a.
1989-93	-1.8	-684	n.a.

Source: Authors' analysis of U.S. Bureau of the Census (1993) and unpublished census data.

FIGURE 1A
Median Family Income, 1967-93*



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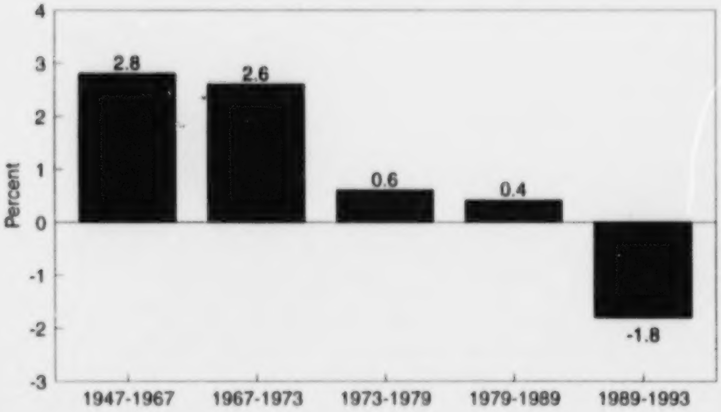
* Data for 1989 and 1992 were revised using census weights. Data for 1990 and 1991 are interpolations based upon this revision.

Source: U.S. Bureau of the Census (1994).

FIGURE 1B
Annual Growth of Median Family Income, 1947-92



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* Data for 1989 and 1993 were revised using 1990 census weights.

Source: U.S. Bureau of the Census (1994).

ing for each family member. Another advantage of family-size-adjusted income measures is that they incorporate income trends of individuals not living in families in addition to income trends among families.

However, trends in incomes adjusted for family size can be misleading, since the recent decline in the average family's size (or growth of single-person households) is partially due to lower incomes; that is, some families feel they cannot afford as many children (or individuals feel they cannot get married as early) as they could have had incomes continued to rise at early post-war rates. Yet a family deciding to have fewer children or a person putting off starting a family because incomes are down appears "better off" in size-adjusted family-income measures. It also seems selective to adjust family incomes for changes in family size and not adjust for other demographic trends such as more hours of work and the loss of leisure.

Nevertheless, even when income growth is adjusted for the shift toward smaller families (as in Table 1.2), the income growth from 1979 to 1989 is only slightly more than the "unadjusted" measure (0.6% versus 0.4%). Furthermore, the size-adjusted family-income measure shows a far greater slowdown in income growth between the 1979-89 period and the 1973-79 period (0.6% versus 1.3%), reflecting the slower decline in family size in the 1980s than in the 1970s.

The downturn that began in 1989 significantly reduced incomes. For instance, the 6.9% fall from 1989 to 1993 meant a loss of $2,737 in income for the median family, an amount far exceeding the income growth for the entire 1979-89 period (Table 1.1). The 1989-92 income decline appears to reflect more than the unemployment accompanying a normal business-cycle downturn. First, it is large, considering the less-than-average recessionary increase in unemployment, up 1.9% (from 5.3% to 7.4%). Second, the large income decline reflects several ongoing and new structural shifts in income growth, such as the falloff in wages among white-collar and college-educated workers that preceded the recession (see Chapter 3), continuing reductions in blue-collar wages, and a slowdown in labor-force growth (see Chapter 4).

That median family income fell from 1992 to 1993 is surprising, and historically unique, because unemployment fell, average incomes rose, employment grew rapidly, and productivity growth was brisk. A radical upward shift in income distribution in the recovery, discussed below, led incomes to fall among the bottom 60% of families despite overall growth in average family income. That median family income fell in four consecutive years (1989-93) is also unique in the post-war period.

Young Families Hurt Most

Table 1.3 shows that the largest drop in incomes has occurred among the youngest families. The average income of families headed by someone under age 25 declined at an annual rate of 2.5% from 1979 to 1989 and 3.3% from 1989 to 1993. These young families in 1993 had $5,823 less income to spend in real dollars than their 1967 counterparts had when they were starting out.

Families headed by someone between the ages of 25 and 34 years have also fared poorly relative to earlier years. The incomes of this type of family eroded 0.5% per year from 1979 to 1989 and 2.8% per year from 1989 to 1993, in stark contrast to the 2.5% annual growth rate between 1967 and 1973. Many families in this age group are likely to be bringing up young children and trying to buy a home of their own. The income problems of these young families thus represent income problems for the nation's children. Families with household heads aged 25 to 34 in 1993 had incomes $5,507 less than their counterparts did in 1979. The deterioration of incomes for these young families is one of the most significant income developments over the last two decades.

TABLE 1.3
Median Family Income by Age of Householder, 1967-93
(1993 Dollars)

Year	Under 25	25-34	35-44	45-54	55-64	Over 65
1967	$23,263	$32,224	$36,778	$38,517	$32,013	$15,636
1973	24,534	37,368	43,800	46,604	39,128	19,673
1979	25,416	37,703	44,744	49,403	42,793	22,109
1989	19,885	35,977	46,848	53,723	43,866	26,899
1992r*	16,014	33,330	43,763	51,578	42,651	25,967
1993r*	17,440	32,196	43,324	52,034	41,022	25,766
Annual Growth Rate						
1967-73	0.9	2.5	2.9	3.2	3.3	3.8
1973-79	0.6	0.1	0.4	1.0	1.5	1.9
1979-89	-2.5	-0.5	0.5	0.8	0.2	2.0
1989-93	-3.3	-2.8	-2.0	-0.8	-1.7	-1.1

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* r indicates revision using 1990 census weights.

Source: Authors' analysis of U.S. Bureau of the Census (1993) and unpublished census data.

The incomes of the 35-44 and 45-54 age groups have grown modestly—0.4% and 0.8% per year—since 1979, compared to growth of about 3.0% per year between 1967 and 1973. Incomes of families headed by someone over 65 increased at a 2.0% pace from 1979 to 1989, only half as fast as in the 1967-73 period. From 1989 to 1993 there was significant slippage in income among every age group.

Income Growth Among Racial/Ethnic Groups

Sluggish income growth has affected all racial groups, as **Table 1.4** illustrates. White families, who fared the best from 1947 to 1973, experienced on average very modest 0.5% annual growth in real income from 1979 to 1989. Black families, with a median income more than 40% lower than that

TABLE 1.4
Median Family Income by Race/Ethnic Group, 1947-93
(1993 Dollars)

	Median Family Incomes by Race and Hispanic Origin of Household Head			Ratio to White Family Income of:	
Year	White	Black	Hispanic*	Black	Hispanic*
1947	$18,851	n.a.	n.a.	n.a.	n.a.
1967	32,777	$19,406	n.a.	59.2%	n.a.
1973	38,559	22,254	$26,680	57.7	69.2%
1979	39,911	22,601	27,668	56.6	69.3
1989r**	41,785	23,562	26,981	56.4	64.6
1992r**	39,828	21,735	24,260	54.6	60.9
1993r**	39,300	21,542	23,654	54.8	60.2
Annual Growth Rate					
1947-67	2.8	n.a.	n.a.		
1967-73	2.7	2.3	n.a.		
1973-79	0.6	0.3	0.6		
1979-89	0.5	0.4	-0.3		
1989-92	-1.6	-2.7	-3.5		
1989-93	-1.5	-2.2	-3.3		

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* Persons of Hispanic origin may be of any race.

** r indicates revision using 1990 census weights.

Source: Authors' analysis of U.S. Bureau of the Census (1993) and unpublished census data.

of whites, experienced slightly slower income growth than whites in the 1973-79 period (0.3% versus 0.6%) and had slow income growth in the 1979-89 period comparable to that of whites (0.4% versus 0.5%). The median income of families of Hispanic origin declined 0.3% per year between 1979 and 1989.

The ratio of black to white median family income fell from 1967 to 1973 but remained fairly constant until the early 1990s when it fell sharply, reflecting relatively steep income losses for blacks in the recent period. Though Hispanic family incomes are higher than those for blacks, they have fallen faster, leading to an increased white/Hispanic gap. Over the 20-year period 1973-93, the ratio of Hispanic to white median income fell from 69.2% to 60.2%.

There were sizeable income losses for every racial/ethnic category over the 1989-93 period. Hispanic family income fell 3.3% per year, more than twice the rate for whites, costing Hispanic families $3,327. White and black families lost, respectively, $2,485 and $2,020 in the 1989-93 period.

Only Married Couples Gain

The only type of family that experienced income growth over the 1980s was married couples with a wife in the paid labor force (**Table 1.5**). Incomes among married couples where the wife was not in the labor force and among single-parent families, whether headed by a man or a woman, declined from 1979 to 1989. This was a dramatic turnaround for female-headed families, since their incomes grew 1.4% per year in the 1973-79 period. (The effect of this decline on poverty rates is explored in Chapter 6.)

This pattern of income growth suggests that it was only among families with two adult earners that incomes grew in the 1979-89 period. The data in Table 1.5 also show sizeable growth in the importance of working wives. In 1979, there were more married couples without a wife in the labor force than those with a wife in the labor force (41.9% versus 40.6% of all families). By 1993, married couples with two earners (assuming the husband worked) made up 47.0% of all families, while one-earner married couples were proportionately fewer in number, just 30.6% of the total.

While this shift toward two-earner families has been a major factor in recent income growth, this shift may be attenuating, since the rate at which wives (and women in general) have been joining the labor force has slowed in recent years. For example, among married-couple families, wives joined the paid labor force at an annual rate of 1.5% in the 1970s, 0.8% in the 1980s,

TABLE 1.5
Median Family Income by Family Type, 1947-93
(1993 Dollars)

	Married Couples			Single		
Year	Total	Wife in Paid Labor Force	Wife Not in Paid Labor Force	Male-Headed	Female-Headed	All Families
1947	$18,564	n.a.	n.a.	$17,531	$12,969	$18,099
1967	33,601	39,632	30,297	27,125	17,093	31,579
1973	39,884	46,647	34,956	32,886	17,747	36,893
1979	41,844	48,546	34,575	32,821	19,293	38,248
1989r*	44,915	52,647	33,364	32,274	18,988	39,696
1992r*	43,144	51,265	31,077	28,402	17,535	37,668
1993r*	43,305	51,204	30,218	26,467	17,433	36,959
Annual Growth Rates						
1947-67	3.0%	n.a.	n.a.	2.2%	1.4%	2.8%
1967-73	2.9	2.7%	2.4%	3.2	0.6	2.6
1973-79	0.8	0.7	-0.2	0.0	1.4	0.6
1979-89	0.7	0.8	-0.4	-0.2	-0.2	0.4
1989-93	-0.9	-0.7	-2.5	-5.0	-2.1	-1.8
Share of Families						
1951**	87.0%	19.9%	67.1%	3.0%	10.0%	100.0
1967	86.9	31.8	55.1	2.4	10.7	100.0
1973	85.0	33.5	49.7	2.6	12.4	100.0
1979	82.5	40.6	41.9	2.9	14.6	100.0
1989r*	79.0	45.6	33.4	4.4	16.6	100.0
1992r*	77.8	46.0	31.8	4.5	17.7	100.0
1993r*	77.6	47.0	30.6	4.3	18.1	100.0

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* *r* indicates revision using 1990 census weights.

**Earliest year available.

Source: Authors' analysis of U.S. Bureau of the Census (1993) and unpublished census data.

and a slightly slower 0.7% in the 1989-93 period. It will be important to watch this trend over the next few years to see whether declining growth of two-earner families slows the rate of income growth among married-couple families.

Married-couple families, although still predominant—representing 77.6% of the total in 1993—make up a smaller share of families than they did in the 1950s and 1960s. There has been a continuing rise in the importance of female-headed families; in 1993 they represented 18.1% of the total. Although this phenomenon has been the focus of increased attention in recent years, the number of female-headed families grew much faster in the 1967-79 period than in the period since 1979. (Chapter 6 looks closely at this issue in the context of poverty.)

All family types lost income over the recession and early recovery, with the steepest losses experienced by single-headed families. Families with working wives were apparently somewhat insulated from the forces driving down incomes, as their incomes fell relatively less (0.7% per year). We now turn to an examination of the impact of these demographic trends on income growth.

Growing Inequality of Family Income

The vast majority of American families have experienced either very modest income growth or an actual erosion in their living standards in recent years, while the small minority of upper-income families had substantial income growth. The result has been an increase in inequality. The rich have gotten richer, the poor are more numerous and are poorer than they have been in decades, and the middle has been "squeezed." This section examines the income trends of families at different income levels and the dramatic growth of income inequality in the 1980s and early 1990s.

Table 1.6 presents the percentage distribution of income among the various income groups (broken down into fifths or "quintiles" of the population; the highest income group is also broken down into the top 5% and the next 15%). The 20% of families with the lowest incomes are considered the "lowest fifth," the next best-off 20% of families are the "second fifth," and so forth.

The upper 20% received 46.2% of all income in 1993. The top 5% received more of total income, 19.1%, than the families in the bottom 40%, who received just 14.3%. In fact, the 1993 share of total income in each of the three lowest-income fifths (i.e, the bottom 60% of families) was substantially smaller than in 1947. As we will see in a later chapter providing international comparisons (Chapter 8), income in the United States is distributed far more unequally than in other industrialized countries.

Income distribution grew even more unequal since 1979, reversing the trend toward less income inequality over the post-war period into the 1970s. Between 1979 and 1989, the bottom 80% lost income share, and only the top 20% gained. Moreover, the 1989 income share of the upper fifth, 44.7%, was far greater than the share it received during the entire post-war period and even higher than the 43% received in 1947. Even among the rich,

TABLE 1.6
Shares of Family Income Going to Various Income Groups and to Top 5%, 1947-93

	Income Share Going to:							
							Breakdown of Top Fifth	
Year	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Total	Bottom 15%	Top 5%
1947	5.0%	11.9%	17.0%	23.1%	43.0%	100.0%	25.5%	17.5%
1967	5.5	12.4	17.9	23.9	40.4	100.0	25.2	15.2
1973	5.5	11.9	17.5	24.0	41.1	100.0	25.6	15.5
1979	5.2	11.6	17.5	24.1	41.7	100.0	25.9	15.8
1989r*	4.5	10.6	16.5	23.7	44.7	100.0	26.8	17.9
1992r*	4.3	10.5	16.5	24.0	44.7	100.0	27.1	17.6
1993r*	4.2	10.1	15.9	23.6	46.2	100.0	27.1	19.1
Point Change								
1979-89	-0.9	-1.1	-1.0	-0.1	3.0	0.0	1.2	1.8
1989-93	-0.1	-0.4	-0.6	-0.4	1.5	0.0	0.0	1.5

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* r indicates revision using 1990 census weights.

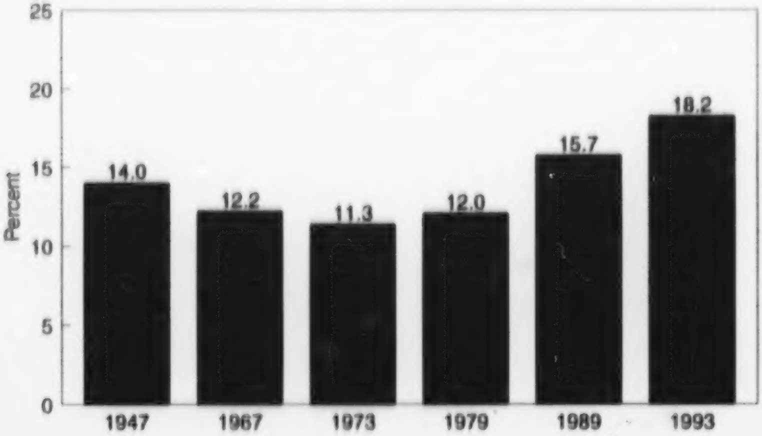
Sources: U.S. Bureau of the Census (1993) and unpublished census data.

the growth in income was skewed to the very top: the highest 5% saw their income share rise by 2.1 percentage points (from 15.8% to 17.9%) between 1979 and 1989, which makes up the bulk of the 3.0 percentage-point total rise in the income share of the upper fifth.

The increase in the income gap between upper- and lower-income groups is illustrated in **Figure 1C**, which shows the ratio of the incomes of the top 5% to the incomes of the bottom 20% from 1947 to 1993. The ratio between the top and the bottom incomes fell from 1947 to 1979, but grew to a historic high of 18.2% by 1993, reversing three decades of lessening inequality.

Another way of viewing this recent surge in income inequality is to compare the income growth of families by income group, as in **Table 1.7**. The table also includes a column of "Gini ratios," an overall measure of income inequality. (Growing inequality is reflected by growth in the Gini ratio.) Over the early post-war period from 1947 to 1973 there was strong income growth across the income spectrum. From 1947 to 1967, for instance, income growth ranged from the 2.5% annual pace obtained by the top fifth to the 3.0% annual pace obtained by the lowest fifth. Because incomes grew more quickly for lower- and middle-income families than upper-income families

FIGURE 1C
Ratio of Family Income of Top 5% to Lowest 20%, 1947-93



Source: Authors' analysis of U.S. Bureau of the Census (1994) data.

TABLE 1.7
Real Family Income Growth by Income Group, 1947-93 (1993 Dollars)

Year	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Top 5%	All	Gini Ratios
1947	$5,293	$12,598	$17,997	$24,455	$45,523	$74,107	$21,173	0.362
1967	9,662	21,862	31,424	42,144	74,416	117,737	35,902	0.358
1973	11,401	24,880	36,556	49,959	85,717	129,361	41,703	0.356
1979	11,422	25,197	38,056	52,405	90,805	137,482	43,577	0.365
1989r*	10,930	25,503	39,704	57,182	107,701	172,482	48,197	0.402
1992r*	9,873	23,813	37,620	54,683	101,760	160,214	45,545	0.404
1993r*	9,735	23,378	37,056	54,929	107,471	177,518	46,503	0.420
Annual Change								
1947-67	3.0%	2.8%	2.8%	2.7%	2.5%	2.3%	2.6%	
1967-73	2.8	2.2	2.5	2.8	2.4	1.6	2.5	
1973-79	0.0	0.2	0.7	0.8	1.0	1.0	0.7	
1979-89	-0.4	0.1	0.4	0.9	1.7	2.3	1.0	
1989-93	-2.9	-2.2	-1.7	-1.0	-0.1	0.7	-0.9	
1992-93	-1.4	-1.8	-1.5	0.4	5.5	10.3	2.1	

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* r indicates revision using 1990 census weights.

Source: Authors' analysis of U.S. Bureau of the Census (1993) and unpublished census data.

(the top fifth and the top 5%) from 1947 through 1973, there was a general decline in income inequality, as shown by the falling Gini ratio.

The pattern of income growth since 1973 was far more uneven and far slower than in the earlier period. From 1973 to 1979 the fastest income growth was the 1% annual growth among the top fifth and top 5% of families that, modest as it was, far exceeded the 0.2% annual income growth among the second fifth and the absence of growth among families with the lowest incomes. Incomes continued to grow slowly in the 1979-89 period, but the pattern of growth was even more unequal. The families with the lowest incomes actually lost ground from 1979 to 1989 (incomes fell 0.4% annually) while the top 5% returned to the same 2.3% rate of income growth they had in the 1947-67 period.

The pattern of growth in the 1989-93 period was also very unequal. At the start of the downturn, from 1989 to 1991, the upper-income families actually lost more income than middle- or low-income families. However, there was a radical redistribution upward in the income distribution during the 1991-93 recovery. As discussed above, the income distribution had reached a post-war record of inequality by 1993. The pattern of growth from 1992 to 1993 was uncharacteristically unequal for a period of economic growth and falling unemployment. Despite a growth in average family income of 2.1%, the incomes of the bottom 60% of families fell from 1992 to 1993.

Over the 1980s, inequality widened among each type of family in much the same pattern as occurred overall—income declines for families at the very bottom and rapid income growth for the best-off **(Table 1.8)**. For instance, the incomes of the bottom fifth declined for each family type, except elderly families. The greatest income decline was among the bottom 40% of single-mother families, whose income decline ranged from 17.1% to 23.2% from 1979 to 1989. In fact, the incomes of the bottom four-fifths of single-mother families fell over the 1980s. On the other end, elderly families in each income group saw significant income growth, although the highest-income elderly had more than double the income growth of the lowest fifth of elderly families (29.5% versus 13.7%).

Table 1.9 and **Figure 1D** examine changes among various income groups using a more comprehensive (including capital gains) pre-tax measure of income. The data also provide finer detail on upper-income groups but, unfortunately, are available only for 1977 and 1980—not for the last business-cycle peak in 1979—and up to 1989. Table 1.9 shows the bottom 60%

TABLE 1.8
Income Growth by Income Group and Family Type, 1979-89

Income Group	All Families	Families With Children			Childless Families	
		All	Married Couples	Single Mothers	Non-elderly	Elderly
Highest	13.9%	12.3%	15.2%	7.5%	18.5%	29.5%
Fourth	4.4	5.1	9.2	-2.4	13.0	20.7
Middle	0.8	-0.8	5.3	-10.1	8.1	18.4
Second	-1.3	-7.6	1.3	-17.1	4.0	15.4
Lowest	-2.1	-17.7	-3.6	-23.2	-1.2	13.7

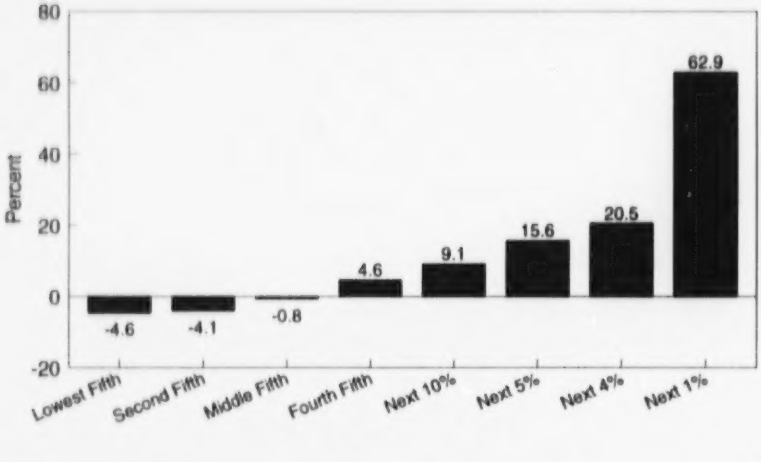
Source: Green Book (1992).

TABLE 1.9
Income Growth Among Top Fifth and by Fifth, 1977-89
(1993 Dollars)

Pre-tax Income	Average Family Income				Percent Change	
	1977	1980	1985	1989	1977-89	1980-89
All	$41,264	$40,613	$42,597	$44,797	8.6%	10.3%
Bottom Four-Fifths	$28,621	$27,691	$27,493	$28,067	-1.9%	1.4%
First	9,648	9,054	8,443	8,642	-10.4	-4.6
Second	23,002	21,638	20,537	20,743	-9.8	-4.1
Third	35,538	33,934	33,104	33,659	-5.3	-0.8
Fourth	48,172	47,199	47,834	49,347	2.4	4.6
Top Fifth	$89,880	$91,696	$103,535	$112,700	25.4%	22.9%
81%-90%	61,871	62,237	65,687	67,873	9.7	9.1
91%-95%	78,816	78,147	84,865	90,337	14.6	15.6
96%-99%	111,176	112,831	125,479	135,989	22.3	20.5
Top 1%	323,942	353,896	488,448	576,553	78.0	62.9

Source: CBO (1991).

FIGURE 1D
Income Growth Among the Top Fifth and by Fifth, 1980-89



Source: CBO (1991).

losing income over the 1980s. These trends began prior to 1980, as shown by the income declines of the bottom 80% of families from 1977 to 1980.

At the other end of the income scale, however, there was considerable income growth (see Figure 1D). The highest income fifth of families saw their incomes rise by 22.9% in the 1980s, five times the 4.6% income gain of the next richest fifth. In fact, the income *gain* of the average family in the upper 20% over the 1980s, $21,003, is more than the average 1989 *total income* of families in the bottom two-fifths.

The most spectacular income growth was among the upper 1%, whose incomes grew by 62.9% over the 1980s. The $222,657 average income gain of the richest 1% of families in the 1980s is nearly two-thirds higher than the average income level of the next best-off 4% of families and is roughly five times the average family income in 1989 ($44,797).

Income growth within the upper fifth was very unequal over the 1980s. Families with income in the 80th to 90th percentile (the "next 10%" group, Table 1.9) experienced only a 9.1% income gain, far better than any group in the bottom 80% but only one-seventh the income growth of the upper 1%.

The rapid income growth of the top fifth relative to the bottom four-fifths of the population led to a substantial increase in the share of total income accruing to the rich **(Table 1.10).** By 1989, the upper 20% of families received more than half (51.8%) of all income, increasing their share of income by 4.4 percentage points since 1980 and 5.3 percentage points since 1977. However, within the upper fifth, the top 5% gained a greater share of income while the remaining 15% saw their share of total income decline. The unbalanced income growth of the 1980s thus caused the bottom 95% of the population to lose income share to the upper 5%. Reflecting their spectacular income growth, the upper 1% of families increased their share of income from 9.4% in 1980 to 13.0% in 1989. As a result, the income share of the upper 1% in 1989 was equal to that of the bottom 40%.

Some economists express doubts about analyses of income because the incomes of families fluctuate from year to year in response to special cir-

TABLE 1.10
Changes in Family Income Shares, 1977-89

Pre-tax Shares	Maximum Income** (1993$)	Family Income Shares 1977	1980	1989	Share Change 1977-89	1980-89
*All**		100.0%	100.0%	100.0%	0.0	0.0
Bottom Four-Fifths		53.8%	52.9%	49.0%	-4.8	-3.9
First	$23,884	4.9	4.5	3.7	-1.2	-0.8
Second	43,383	10.6	10.4	9.3	-1.3	-1.1
Third	64,220	15.7	15.5	14.6	-1.1	-0.9
Fourth	97,231	22.6	22.5	21.4	1.2	-1.1
Top Fifth		46.5%	47.4%	51.8%	5.3	4.4
81%-90%	131,503	15.8	15.7	15.5	-0.3	-0.2
91%-95%	173,753	10.1	10.3	10.3	0.2	0.0
96%-99%	$384,681	11.8	12.0	12.9	1.1	0.9
Top 1%		8.7	9.4	13.0	4.3	3.6

---

* Shares of income add to more than 100 because those with negative incomes were excluded from lowest fifth.

** Highest income in the group. Income of family of four.

Source: CBO (1991).

cumstances—a layoff, a one-time sale of an asset, and so on. As a result, a family's income may partially reflect transient events and not indicate its economic well-being over the long term. A preferable item to study, in this view, is the consumption levels of families, because families typically gear their consumption to their expected incomes over the long term.

Table 1.11, which presents the trend in the distribution of consumption, permits a view of this final dimension of growing inequality. The distribution of consumption appears to be more equal than that of income (compare Table 1.11 to Table 1.6) in any one year. However, the trend toward equality in the 1960s and toward inequality over the 1970s and 1980s is apparent in both income and consumption measures of well-being. Moreover, using both income and consumption data, one sees rapid growth among the best-off over the 1980s while the relative well-being of the bottom 60% was reduced.

Another way of characterizing the unequal income growth of recent years is to calculate the increase in total family income (omitting income growth due simply to a greater number of families) that went to the various income groups, as shown in **Table 1.12** and **Figure 1E**. The income gains of the top 1% of families were so great relative to the rest of the population that their income growth accounted for 71.5% of total income growth from 1977 to 1989. Over the more recent period, 1980-89, the top 1% received over half (53.2%) of all income growth, compared to the much smaller 9.4%

TABLE 1.11
Shares of Consumption, 1960-88*

Year	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth
1960-61	8.2%	14.0%	18.3%	23.3%	36.2%
1972-73	9.3	14.5	18.5	23.0	34.7
1980	8.4	14.0	18.5	23.2	35.9
1988	7.5	13.5	18.2	23.6	37.2
Change					
1980-88	-0.9	-0.5	-0.3	0.4	1.3

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*Adjusted for family size.

Source: Cutler and Katz (1992).

TABLE 1.12
Shares of Aggregate Income Growth, 1977-89*

Income Group	1977-89	1980-89
Bottom Fifth		
First	-5.7%	-2.3%
Second	-12.8	-4.3
Third	-10.6	-1.3
Fourth	6.7	10.3
Top Fifth		
81%-90%	17.0%	13.5%
91%-95%	16.3	14.6
96%-99%	28.1	22.1
Top 1%	71.5	53.2

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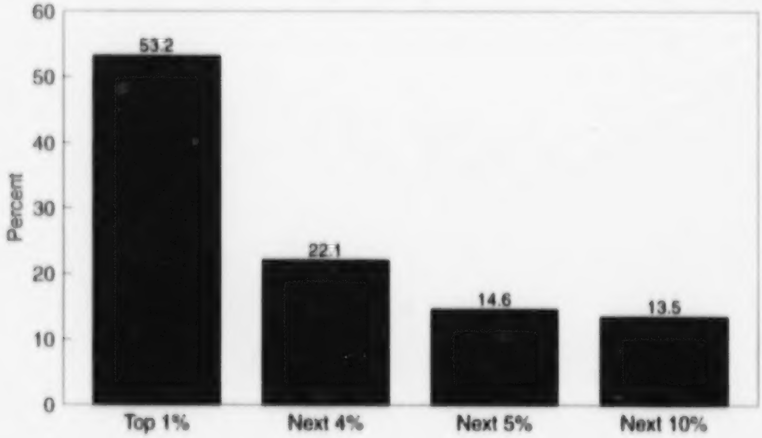
* Shares sum to more than 100 because negative incomes have been excluded from the lowest fifth.

Source: CBO (1991).

FIGURE 1E
Shares of Aggregate Income Growth Among Top Fifth, 1980-89



Source: CBO (1991).

of total income growth (equal to their 1980 share of income) that the top 1% of families would have enjoyed if income inequality had not grown. Other income groups within the top fifth of families also obtained sizeable shares of the total income growth.

Reflecting the fall in their average incomes, the bottom 60% of families received none (a negative share) of the income growth generated from 1977 or 1980 to 1989.

Other dimensions of the recent growth in inequality are examined in later chapters. Chapter 2 examines the effect of changes in tax levels and the distribution of the tax burden on after-tax income inequality and growth, Chapter 3 examines trends in wage levels and inequality, Chapter 5 looks at growing wealth inequality, and Chapter 6 examines the growth in poverty. We now turn to some explanations of the growth in income inequality.

Greater Capital Incomes, Lower Labor Incomes

In the 1980s, the fortunes of individual families depended on the sources of their incomes: labor income, capital income, or government assistance. One significant reason for the unequal growth in family incomes over the 1980s was that a greater share of total income was generated in the form of capital incomes (such as rent, dividends, interest payments, capital gains), and a smaller share was "earned incomes" such as wages and salaries. Since most families receive little or no capital income, this shift had a substantial impact on income distribution. There has also been a growing inequality in the distribution of both wages and capital income.

Table 1.13 shows the sources of income for families in each income group in 1989. The top fifth gets a far larger percentage of its income from financial assets—capital—compared to the other 80% of the population. The top 1% receives nearly half its income from financial assets; besides that group, only the next-richest 4% of families receives at least 20% of its income from capital. The bottom 90% of families relies on capital income for less than 10% of its income.

Those without access to capital income depend either on wages (the broad middle) or on government transfers (the bottom) as their primary source of income. As a result, the cutback in government cash assistance primarily affects the income prospects of the lowest 40% of the population, but particularly the bottom fifth (see Chapter 6). The income prospects of families in the 20th to 99th percentile, on the other hand, depend primarily on the level and distribution of wages and salaries.

TABLE 1.13
Source of Family Income for Each Family Income Group, 1989

Income Group	Labor	Capital*	Gov't Transfer	Other	Total
All	70.7%	15.3%	7.0%	5.0%	100.0%
Bottom Four-Fifths					
First	50.9	3.6	39.1	6.4	100.0
Second	69.8	5.7	17.7	6.8	100.0
Middle	76.4	7.4	9.9	6.4	100.0
Fourth	80.4	8.3	5.8	5.5	100.0
Top Fifth	72.7	22.9	2.3	4.1	100.0
81%-90%	81.0	9.9	4.0	5.1	100.0
91%-95%	79.6	13.3	2.5	4.6	100.0
96%-99%	70.9	22.2	2.0	4.9	100.0
Top 1%	51.4	46.4	0.6	1.6	100.0

	Shares of Market-Based Incomes**		
Year	Labor	Capital*	Total
1977	86.1%	13.9%	100.0%
1980	84.5	15.5	100.0
1989	82.6	17.4	100.0

---

* Includes rent, dividend, interest income, and realized capital gains.

** Incomes from wages (wages and salaries, self-employment earnings) and capital, excluding transfer incomes (AFDC, Social Security, pensions, alimony, etc.).

Source: Authors' analysis of CBO (1992) data.

Table 1.14 shows that income accruing to owners of capital grew far faster than labor income in the 1980s. Between 1979 and 1989, those who owned income-producing property such as real estate, corporate stock, bonds, and other interest-bearing assets saw their incomes from these sources increase by 65.3%. The fast growth in capital income is primarily due to strong growth in interest payments of 78.7%, caused by the high real (inflation-adjusted) interest rates of the 1980s.

Dividend income grew less, but by a still substantial 49.8%. The growth in capital, or property-based, income is actually somewhat understated by

TABLE 1.14
Real Income Growth by Type of Personal Income 1979-93

Income Type	1979-89	1989-93
(1) Total Capital Income	65.3%	-4.9%
(a) Rent	-195.9	180.1
(b) Dividends	49.8	7.4
(c) Interest	78.7	-10.7
(2) Total Labor Income	22.8%	3.7%
(a) Wages & Salaries	22.9	2.2
(b) Fringe Benefits	20.9	19.5
(3) Proprietor's Income*	14.0%	9.5%
*Total Market-Based Personal Income***	28.4%	2.6%
(4) Realized Capital Gains***	205.5%	n.a.

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* Business and farm owners' income.
** Total of listed income types.
*** Capital gains are not included in the NIPA definition of personal income.

Source: Authors' analysis.

line (1) in Table 1.14, since the data do not account for the appreciated value of assets in this period. As Chapter 5 shows, over the 1979-89 period there was a rapid gain in the value of financial assets (bonds, stocks) and real estate and businesses. This increased value of assets yields both realized capital gains when the assets are sold or unrealized capital gains (increased wealth holdings) that can generate income at a future time. Line (1) in Table 1.14, total capital income, ignores both realized and unrealized capital gains because they are not measured as part of national income in the official data. Supplementary information on realized capital gains (from the IRS), however, shows that this important type of capital income tripled between 1979 and 1989.

During the same period, total labor income, which includes the pay of executives and professionals as well as hourly workers, rose by 22.8%, just one third as much as capital income. (This rise in labor income primarily reflects a larger employed population working longer hours and is consistent with flat or declining real hourly wages.) Farmer and small business owners' incomes, called proprietor's income, rose 14.0%.

The mix of income growth has been different over the early 1990s. Capital income actually fell over the 1989-93 period, primarily because of the drop in real interest rates. In contrast, labor income, fueled by fringe-benefit growth, grew a modest 3.7%, or about 1% annually. These data suggest that the 1979-89 shift toward capital income may be reversing, although this trend may be due partly to the business cycle and, therefore, temporary.

The 1973-89 shift away from labor income and toward capital income was unique in the post-war period **(Table 1.15)** and was partly responsible for the 1980s' surge in inequality. Since the rich are the owners of income-producing property, the fact that the assets they own commanded an increasing share of total income automatically led to income growth that tended to be concentrated at the top. This is especially the case since, as we discuss below, there was also a growth in the inequality of the distribution of capital incomes among families.

Capital income was 19.7% of total income in 1989, nearly double the 10.9% share in 1947. Over half of the increase in capital income's share of total

TABLE 1.15
Shares of Market-Based Personal Income by Type, 1947-93

Income Type*	1947	1959	1967	1973	1979	1989	1991	1993
(1) Total Capital Income	10.9%	13.5%	14.9%	13.7%	15.3%	19.7%	19.3%	18.3%
(a) Rent	3.2	4.0	3.2	1.7	0.5	-0.3	0.3	0.3
(b) Dividends	3.5	3.4	3.6	2.7	2.7	3.2	3.0	3.3
(c) Interest	4.2	6.1	8.1	9.3	12.1	16.9	16.7	14.7
(2) Total Labor Income	69.5%	72.6%	73.6%	74.8%	74.9%	71.6%	71.9%	72.4%
(a) Wages & Salaries	68.1	69.8	70.0	69.9	68.1	65.2	65.1	65.0
(b) Fringe Benefits	1.3	2.9	3.5	4.9	6.7	6.4	6.7	7.4
(3) Proprietor's Income*	19.7%	13.9%	11.6%	11.5%	9.9%	8.8%	8.8%	9.4%
Total Market-Based Personal Income**	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(4) Realized Capital Gains	n.a.	n.a.	n.a.	n.a.	1.5%	3.7%	2.4%	n.a.

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* Business and farm owners' income.

** Total of listed income types.

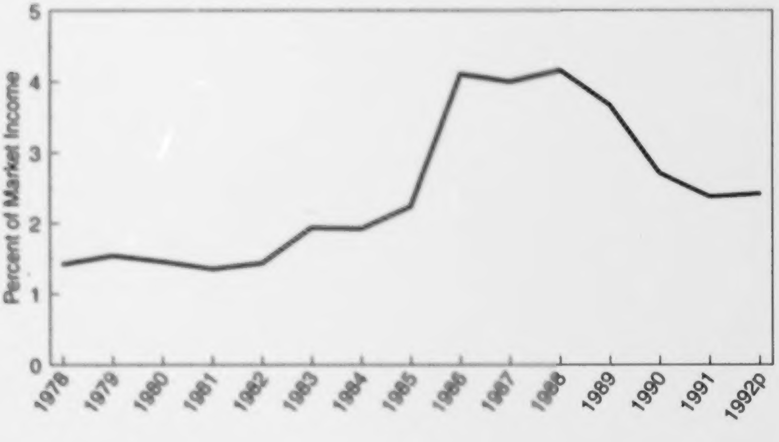
Source: Authors' analysis.

income occurred between 1979 and 1989, driven by high real interest rates. The growth in the share of capital income would be even greater if capital gains were included. As line (4) shows, realized capital gains were equivalent to 1.5% of market-based personal income in 1979 but 3.7% in 1989 (see **Figure 1F**).

Labor income's share of total income declined from 1979 to 1989, reversing the pre-1979 trend in which the share rose or held its own. The share of wage and salary income in 1989 was the lowest in the post-war period. The share of fringe benefits also declined in the 1980s, the first shrinkage over the last four decades.

It is difficult to interpret changes in proprietor's income because it is a mixture of both labor and capital income. That is, the income that an owner of a business (or farmer) receives results from his or her work effort (labor income) and his or her ownership (capital income) of the business or farm. To the extent that the shrinkage of proprietor's income results from a shuffle of people out of the proprietary sector (i.e., leaving farming) and into wage

FIGURE 1F
Capital Gains' Share of Market Income, 1978-92(p)*



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* (p) indicates projected.

Source: Authors' analysis.

and salary employment, there will be a concomitant increase in labor's share of income (i.e., as farm income is replaced by wage income). This shift out of proprietor's income thus helps to explain a rising labor share in some time periods. It is interesting to note, therefore, that labor's share of income fell from 1979 to 1989 despite an erosion of proprietor's income from 9.9% to 8.7% of total income.

The data in the bottom panel of Table 1.13 confirm a shift toward capital income among families in the 1980s. The share of capital income in all market-based income (i.e., excluding government and other transfers of income) rose from 13.9% in 1977 to 17.4% in 1989.

From the point of view of national income (incomes generated by the corporate, proprietor, and government sectors) there does not appear to have been a significant shift away from labor income toward capital income **(Table 1.16)**. For instance, labor's share of national income fell only slightly, from 73.4% in 1979 to 73.0% in 1989. A closer look at the underlying data, however, suggests a significant shift away from labor income. First, note that labor's share of national income rose substantially from 1947 to 1979, due in part to the steady expansion of the government/nonprofit sector. When the government/nonprofit sector grows, there is a tendency for labor's share of income to grow because this sector generates labor income only and no capital income. For example, the growth of the government/nonprofit sector from 18.2% to 19.3% of national income between 1979 and 1989 necessarily added 1% to labor's share of national income (other things remaining equal).

Labor's share of national income also grows as the proprietary sector (farm and nonfarm unincorporated businesses) shrinks, as it did from 1947 to 1979, because labor's share of income in that sector is relatively low (less than one-third of it in 1979). When resources shift from a sector with a low labor share of income, such as the proprietor's sector, to sectors with higher labor share (all of the other sectors) the share of labor income in the economy necessarily rises. Thus, the changing composition of income across organizational sectors (expanding government, shrinking proprietors) provides momentum for an increase in labor's share of national income.

Why, then, given the continued, albeit slow, expansion of the government/nonprofit sector, did labor's share of national income not continue to rise in the 1979-89 period, as it had earlier? The failure of labor's share to grow stems primarily from the unique decline in labor's share of the corporate and business sector between 1979 and 1989, reversing the tend-

TABLE 1.16
Shares of Income by Type by Sector, 1947-93

Income Type	1947	1973	1979	1989	1993
National Income All Sectors					
Labor	66.1%	72.6%	73.4%	73.0%	73.7%
Capital	16.0	17.0	17.8	18.9	17.7
Prop. Profit	17.9	10.4	10.4	8.9	8.6
Total	100.0	100.0	100.0	100.0	100.0
(a) Corporate and Business Sector					
Labor	42.2%	48.2%	50.5%	49.3%	48.6%
Capital	15.8	16.0	16.3	16.6	16.3
Total	57.9	64.2	66.8	65.9	64.9
(b) Proprietor's Sector					
Labor	11.4%	5.2%	4.7%	4.4%	4.6%
Capital	0.2	1.0	1.4	2.3	1.5
Prop. Profit	17.9	10.4	8.9	8.1	8.6
Total	29.5	16.6	15.1	14.8	14.6
(c) Government/Nonprofit Sector					
Labor	12.5%	19.2%	18.2%	19.3%	20.5%
Capital	0.0	0.0	0.0	0.0	0.0
Total	12.5	19.2	18.2	19.3	20.5
Addendum					
Shares of Corporate-Sector Income*					
Labor	78.7%	82.4%	83.2%	82.2%	82.1%
Capital	21.3	17.6	16.8	17.8	17.9%
Total	100.0	100.0	100.0	100.0	100.0

---

*Does not include sole proprietorships, partnerships, and other private noncorporate businesses. The corporate sector, which includes both financial and nonfinancial corporations, accounted for 58% of national income and 71.6% of private-sector income in 1989.

Source: Authors' analysis.

ency toward more labor income from the 1960s to the 1970s. This is seen most clearly in the bottom panel of Table 1.16, which shows that labor's share of income in the corporate sector fell from 83.2% in 1979 to 82.2% in 1989. These data suggest that there was a shift away from labor income in the private sector (both corporate and proprietor) that does not show up in national income because of the growth of the labor-intensive government/nonprofit sector.

The data in Table 1.16 confirm the evidence seen in other tables of the expansion of capital income's share of total income over the 1980s. For instance, there was an increase in the capital-income share of national income between 1973 and 1979 and an even larger growth between 1979 and 1989.

Nevertheless, a larger shift away from labor and toward capital income was evident in Tables 1.14 and 1.15. One reason for this variation is that capital income is defined differently in these tables. At the "personal" level, capital income includes interest, dividends, and rent; while at the "national-income" level, capital income includes rents, profits, interest, and dividends. The difference is that corporate-generated capital income received by persons takes the form of dividends and interest paid by firms. Individuals also benefit from higher corporate-retained profits (the after-tax profits not paid out in dividends), which are linked to realized and unrealized capital gains. The personal income data used in Tables 1.14 and 1.15, however, do not include any capital gains. Capital income in "national income" is primarily based on corporate profits and interest income.

One possible explanation for a faster rise in capital income at the personal level than at the national level is that increased corporate indebtedness has forced a change in the composition, or form, of capital income—more interest income and fewer capital gains based on corporate retained earnings—but not the total amount. The increased debt on corporate balance sheets over the 1980s, for instance, meant that corporations paid out more in interest to persons. These greater interest payments, however, reduce corporate profits and thus retained earnings (roughly defined as profits after dividend payments), slowing the appreciation of net worth in the corporate sector.

To the extent that greater interest payments to persons were the result of more corporate debt, one could argue that households were simply receiving their capital income in a different form—interest payments—rather than capital gains (from higher stock prices) based on higher retained corporate profits. (If companies had not paid out so much interest they would have "plowed back" that much more in profits.) In this view, since capital gains are not measured as part of personal income (in the relevant government data), what is actually a change in the form of capital income (more interest, less capital gains) appears as an expansion of capital income.

This dynamic, however, can provide only a partial explanation for the rising share of capital income in personal income. One reason is that interest income has risen not only because of increased corporate (and government) leverage, but also because interest rates in the 1980s were historically high in real terms. Moreover, capital gains expanded over the 1980s, so it seems that households managed to receive both more interest (partially at the expense of retained earnings) and more capital gains. The increase in realized capital gains is discussed below. There was also an increase in unrealized capital gains, reflected in the rapid growth of real financial assets and wealth, which we discuss in Chapter 5. Thus, owners of capital in the 1980s were able to expand both their current flow of capital income (i.e., receive more dividends and interest income) and to augment their wealth holdings (i.e., their stocks and other assets appreciated in value).

The shift toward capital income may be stalling in the 1990s. As Table 1.16 shows, there was a slight growth of the labor-income share between 1989 and 1993. Moreover, there was a falloff in capital-gains income in the early 1990s (Figure 1F). However, the expansion of labor's share reflects a growth in the size of the government/nonprofit sector (which alone added 1.2% to labor's share). There is no evidence of a shift back toward labor within the corporate sector. At this point it is unclear whether the expansion of capital income will resume in the 1990s.

Not only did the share of total income accruing to owners of capital increase in the 1980s, there was also a growing inequality in the receipt of capital incomes (**Table 1.17** and **Figure 1G**). Between 1980 and 1989, for instance, the top 1% of families increased their share of capital income from 34.9% to 39.7%. All of the other income groups (except the middle fifth) had a lesser share of capital income in 1989 than in 1980.

There was also a growing inequality of labor incomes. Between 1980 and 1989, for instance, the top 10% of families expanded their shares of labor income while the bottom 90% saw their share of labor income decline (Table 1.17). Because labor income makes up roughly 71% of total income (Table 1.13), any increased inequality of labor incomes will have a major impact on overall income inequality. (The growth of wage inequality is analyzed in Chapter 3.)

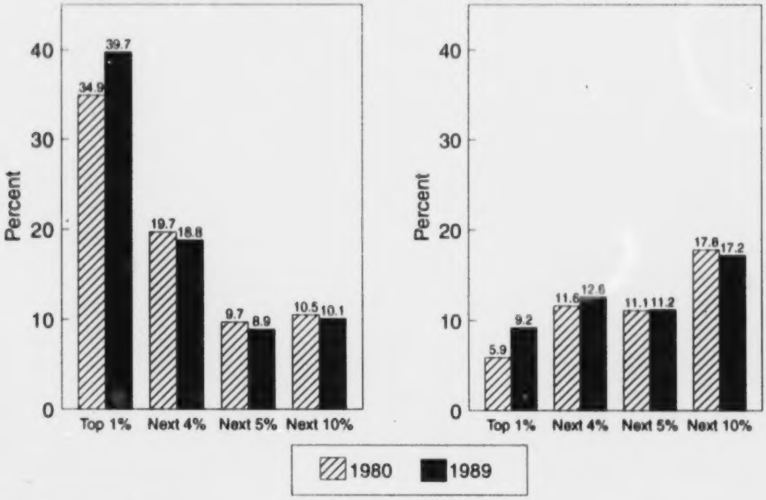
When we examine the growth of incomes of the top fifth between 1980 and 1989 by type of income **(Table 1.18)**, it is evident that the increased inequality of both labor and capital income and the shift toward greater capital income has benefited upper-income groups. The top 1% had a spectacular 62.9% growth in their incomes between 1980 and 1989 because of fast growth (47.6%) in their capital income and even faster growth (78.5%) in

TABLE 1.17
Distribution of Labor and Capital Incomes, 1977-89

Income Group	Shares of Capital Income 1977	1980	1989	Shares of Labor Income 1977	1980	1989
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Bottom Four-Fifths:						
First	1.8%	1.5%	0.9%	2.8%	2.6%	2.6%
Second	5.1	4.2	3.5	10.0	9.8	8.9
Middle	7.9	6.9	7.1	16.8	16.6	15.3
Fourth	12.3	12.3	11.6	24.8	25.1	23.7
Top Fifth:	72.6%	74.7%	77.5%	46.0%	46.4%	50.3%
81%-90%	10.3	10.5	10.1	17.6	17.8	17.2
91%-95%	9.2	9.7	8.9	11.1	11.1	11.2
96%-99%	20.0	19.7	18.8	11.5	11.6	12.6
Top 1%	33.1	34.9	39.7	5.8	5.9	9.2

Source: CBO (1992).

FIGURE 1G
Distribution of Labor and Capital Incomes, Top 20%, 1980-89



Source: CBO (1992).

TABLE 1.18
Sources of Income Growth of Top Fifth, 1980-89

Income Group	Wages & Salaries	Self-Employment	All Labor	Rent, Dividends, & Interest	Realized Capital Gains	All Capital	Total*
Top 1%							
1980	$121,294	$39,859	$161,153	$84,528	$91,400	$175,928	$343,601
1989	209,363	78,371	287,735	134,911	124,274	259,745	559,795
Change							
Dollar	$88,069	$38,513	$126,582	$50,383	$32,874	$83,817	$216,185
Percent	72.6%	96.6%	78.5%	59.6%	36.0%	47.6%	62.9%
Next 4%							
1980	$68,360	$10,736	$79,205	$17,419	$7,340	$24,759	$109,551
1989	81,334	12,279	93,614	21,654	7,658	29,312	132,036
Change							
Dollar	$12,974	$1,543	$14,408	$4,235	$318	$4,553	$22,485
Percent	19.0%	14.4%	18.2%	24.3%	4.3%	18.4%	20.5%
Next 5%							
1980	$57,514	$4,097	$61,611	$7,588	$2,276	$9,864	$75,876
1989	65,432	4,386	69,818	9,279	2,368	11,666	87,711
Change							
Dollar	$7,918	$288	$8,207	$1,710	$ 92	$1,802	$11,835
Percent	13.8%	7.0%	13.3%	22.5%	4.0%	18.3%	15.6%
Next 10%							
1980	$49,068	$2,055	$51,183	$4,532	$1,088	$5,559	$60,428
1989	51,007	2,372	53,379	5,536	989	6,524	65,900
Change							
Dollar	$1,939	$318	$2,196	$1,004	$-99	$965	$5,472
Percent	4.0%	15.5%	4.3%	22.1%	-9.1%	17.4%	-9.1%

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* Includes transfer and other income not shown.

Source: Authors' analysis of CBO (1992) data.

their labor incomes. As **Table 1.19** shows, the growth in capital income explains 38.8% of the total growth of the top 1%'s income from 1980 to 1989. The growth in realized capital gains alone accounted for 15.2% of the total income growth among the top 1%, providing $32,874 more in income in 1989 than in 1980—an amount greater than the total income growth among the next richest 4% from 1980 to 1989 ($22,485). The fast growth of labor income fueled 58.6% of the total income growth of the top 1%. Any explanation of the rising income level and share of the top 1% must account for the growth in both capital and labor incomes.

The remaining segments of the top fifth had more modest income gains. For the next 4% and next 5% (the remainder of the upper 10% of families), income growth was based on both increased capital incomes and labor incomes, but the importance of higher labor incomes was more important to these groups than for the top 1% (Table 1.19).

TABLE 1.19
Shares of Income
by Type of Income for Top Fifth, 1980-89

	Percent of Income Growth Due to:						
Income Group	Wages and Salaries	Self-Employment	All Labor	Rent, Dividends, & Interest	Realized Capital Gains	All Capital	Total*
Top 1%	40.7%	17.8%	58.6%	23.3%	15.2%	38.8%	100.0%
96%-99%	57.7	6.9	64.1	18.8	1.4	20.3	100.0
91%-95%	66.9	2.4	69.3	14.4	0.8	15.2	100.0
81%-90%	35.4	5.8	40.1	18.3	-1.8	17.6	100.0

* Includes transfer and other incomes not shown.

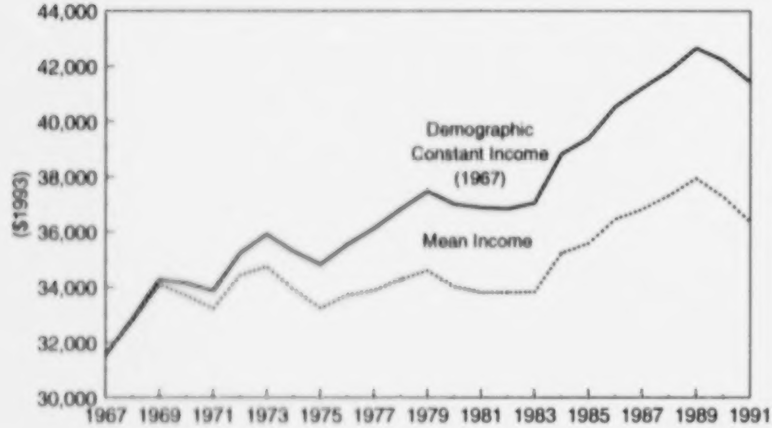
Source: Authors' analysis of CBO (1992) data.

The Impact of Demographic Changes on Income

It is often suggested that changes in the demographic composition of American families have contributed to the income problems documented above. While it is unquestionably the case that the increased share of economically vulnerable families has put downward pressure on income growth, this process is a dynamic one that has not been constant over time. In addition, some demographic factors, such as the increase in educational attainment, have led to increased family income. It is important, then, to look at the net effect of demographic shifts in different time periods.

Figure 1H shows the trend in mean income for families (in this case, families include one-member units), both actual and with family composition fixed at its 1967 level. The difference between the lines shows the cumulative effect of changes in the composition of families. Specifically, the popu-

FIGURE 1H
Actual Mean Income vs. Demographic Constant Mean Income, 1967-91



Source: Blank and Card (1993).

lation of families is split into five family types: families headed by an elderly person, single family heads both with and without children, and married heads both with and without children. Thus, the fixed-weight trend (solid line) shows how mean family incomes would have grown if each of these groups had maintained their 1967 population shares.

The figure clearly shows the negative impact of composition changes on income growth. By the end of the period, 1991, mean family income was $36,356; in the absence of negative demographic shifts, mean income would have been $41,421. However, as **Table 1.20** shows, these changes had a larger negative effect in the 1970s than in the 1980s. Between 1973 and 1979, demographic changes decreased mean family income at an annual rate of 0.78%. However, the rate of decrease over the 1980s, 0.37% per year, was roughly half the 1970s' rate. While shifts to more vulnerable family types continue to slow income growth, this is clearly a lesser factor in explaining 1980s' trends relative to trends in the 1970s.

Table 1.20 controls only for shifts in five family types. **Table 1.21** extends this type of analysis by fixing a wider range of demographic factors in the base period, including age, race, and education. Once again, we see that demographics were favorable in the 1980s relative to the 1970s. Changes in the age structure, for example, were negative in the 1970s but actually increased the household median by $336 in the 1980s, due primarily to baby boomers entering their prime earning years. Race and household type (married couple, nonmarried couple, and unrelated individuals) are once again seen to decrease median income, but less so than in the 1970s. Finally, educational attainment had an expected positive effect, though slightly less in the later period. In fact, once education is included, the full effect of demographic change was income enhancing in the 1980s. (A similar finding of the poverty-reducing effect of educational upgrading is shown in Table 6.16.)

TABLE 1.20
Growth in Household Income, Actual and Fixed Demographic Weights, 1967-89

	Annual Growth Rates		
	Actual	Fixed 1967 Weights	Demographic Effect
1967-73	1.59%	2.15%	-0.56%
1973-79	-0.07	0.71	-0.78
1979-89	0.92	1.30	-0.37

Source: Authors' analysis of Blank and Card (1993).

Table 1.21
Detailed Effects of Demographic Changes on Median Household Income, 1970s and 1980s

Median Household Income, 1989 (1993 Dollars): $33,685

Variable	1970s	1980s
Age	$-643	$336
Race	-128	-98
Household Type	-2,416	-1,344
Education	1,778	1,729

Source: U.S. Bureau of the Census (1992).

The Shrinking Middle Class?

Another dimension of income growth is the proportion of the population that has low, middle, and high incomes. Two factors determine the distribution of the population at various income levels—the rate of growth of average income and changes in income equality. As average income grows, there will be a greater proportion of the population at higher-income levels. However, if inequality grows such that the low-income population receives an unusually low proportion of the income growth and the high-income population obtains an unusually large proportion, then a rise in average income may not translate into a general upward movement of the population to higher-income levels. That is, it is possible for incomes to grow on average and have segments of the population with declining incomes.

Table 1.22 shows the proportion of families, households, and persons with low, middle, and high incomes in 1969, 1979, 1989, and 1992. For households and families, the definition of middle income has been arbitrarily set as a range from $15,000 to $50,000. Among persons, middle income has been set at 50% to 200% of median family (size-adjusted) income.

Over the 1969-89 period, the proportion of families with middle incomes declined as more families attained incomes beyond $50,000. The shift upward was smaller over the 1979-89 period than in the 1969-79 period (4.8% versus 8.2%). The 1980s also saw a shifting of 0.8% of families out of middle incomes and into the low-income category. Income losses since 1989 have led to a downward shift in income, as seen by a slight increase in the number of middle-income families (0.6%) and a large increase (1.4%) in families with incomes under $15,000.

When one looks at households, including single persons in addition to families, there appears to be a 1.7% shift away from the low-income category in the 1969-89 period that was fully reversed in the 1989-92 period. The gradual shift from middle- to higher-income households over the 1969-89 period was partially reversed from 1989 to 1992.

The third panel of Table 1.22 examines the incomes of people—single and in families—according to the per capita incomes of their families (size-adjusted), with a single person given an individual income. In this analysis, the income of persons is measured relative to the median, which, unlike the above, is not a fixed "breakpoint" but shifts with the trend in the median. In this regard, this panel reveals more the distribution of relative income (i.e., the distance between persons in the income distribution) than

TABLE 1.22
Distribution of Persons, Households, and Families by Income Level, 1969-92

	Percent of Persons by Income Levels				Percentage-Point Change		
Income Level	1969	1979	1989	1992	1969-79	1979-89	1989-92
*Families (Income)**							
Under $15,000	16.1%	14.6%	15.4%	16.8%	-1.5	0.8	1.4
$15,000 to $50,000	61.4	54.7	49.1	49.7	-6.7	-5.6	0.6
Over $50,000	22.5	30.7	35.5	33.5	8.2	4.8	-2.0
Total	100.0	100.0	100.0	100.0			
*Household (Income)**							
Under $15,000	24.1%	23.1%	22.4%	24.1%	-1.0	-0.7	1.7
$15,000 to $50,000	56.6	52.2	48.6	48.7	-4.4	-3.6	0.1
Over $50,000	19.3	24.8	29.1	27.1	5.5	4.3	-2.0
Total	100.0	100.0	100.0	100.0			
*Persons (Income Relative to Median)***							
Less Than 50%	17.9%	20.0%	22.1%	22.7%	2.1	2.1	0.6
50% to 200%	71.1	68.1	63.3	62.4	-3.0	-4.8	-0.9
More Than 200%	10.9	11.9	14.7	14.9	1.0	2.8	0.2
Total	100.0	100.0	100.0	100.0			

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* 1992 dollars.

**Each person assigned his or her family's per capita (size-adjusted) income.

Sources: U.S. Bureau of the Census (1992-93), and unpublished tabulations by John McNeil.

the earlier panels. The analysis shows a consistent shift out of middle incomes since 1969, but the shift is into the lower- as well as into the higher-income group. The shift upward is stronger in the 1980s than in the 1970s (2.8% versus 1.0%). Over the most recent period, 1989-92, the share of families closest to the median has continued to shrink, with the larger share shifting downward (0.6%) than upward (0.2%).

Table 1.23 continues this relative income analysis of persons from Table 1.22, but it categorizes families and persons by the education level of their household head and is limited to people in their prime earning years (25-64). Over the 1969-92 period, the proportion of families headed by a high school graduate (or a high school dropout) who had either a middle-class or high relative income shrank, especially since 1979. Even among the "some college" category there has been a general shift to a smaller middle-income

TABLE 1.23
Distribution of Prime-Age Adults by Relative Income Level, 1969-92

Family Income Relative to Median*	Percent of Persons at Relative Income Levels				Percentage-Point Change		
	1969	1979	1989	1992	1969-79	1979-89	1989-92
Less Than High School							
Less Than 50%	21.7%	29.0%	38.4%	41.5%	7.3	9.4	3.1
From 50% to 200%	71.5	65.4	57.0	54.7	-6.1	-8.4	-2.3
More Than 200%	6.8	5.6	4.5	3.8	-1.2	-1.1	-0.7
High School Graduate							
Less Than 50%	7.5%	11.0%	15.7%	17.6%	3.5	4.7	1.9
From 50% to 200%	77.8	75.6	71.4	70.7	-2.2	-4.2	-0.7
More Than 200%	14.6	13.4	12.9	11.7	-1.2	-0.5	-1.2
Some College							
Less Than 50%	5.9%	8.6%	10.2%	12.0%	2.7	1.6	1.8
From 50% to 200%	71.1	71.7	69.5	68.2	0.6	-2.2	-1.3
More Than 200%	23.0	19.7	20.2	19.8	-3.3	0.5	-0.4
College Graduate							
Less Than 50%	3.8%	5.1%	4.6%	4.6%	1.3	-0.5	0.0
From 50% to 200%	58.8	61.0	55.0	53.8	2.2	-6.0	-1.2
More Than 200%	37.4	33.9	40.4	41.6	-3.5	6.5	1.2

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* Persons from 25 to 64 years old, based on a person's per capita (size-adjusted) family income.

Sources: U.S. Bureau of the Census (1991); unpublished tabulations by John McNeil.

population and a greater low-income population, and the shift downward was stronger from 1969 to 1979. (There was a slight uptick in the percentage of high-income families in the 1979-89 period that was reversed in 1989-92.) The families with college graduates as their household heads were shifting downward in income from 1969 to 1979 but upward after 1979. These changes in the income levels of families and persons by the educational attainment of the household head reflect the trends in wages for the various educational groups: college graduates fared well in the 1980s but poorly in the 1970s (because of a surplus), and wages fell among the non-college-educated workforce between 1979 and 1992. (See Chapter 3 for an analysis of these trends.)

Increased Work by Wives Cushions Income Fall

Family-earnings growth has not only been slow and unequal, it has also come increasingly from greater work effort—from a rise in the number of earners per family and in the average weeks and weekly hours worked per earner. The primary source of the increased work effort has been women, including many with children. As will be detailed in Chapter 3, this increased work effort has occurred simultaneously with a fall in real wages for men and for many women in the 1980s. The result has been increases in annual earnings primarily through more work rather than through higher hourly wages.

This trend is troublesome for several reasons. This type of earnings growth is "self-limiting," meaning it can only go on until all adult (or even teen) family members are full-time, full-year workers. The slowdown in the growth in women's labor-force participation in recent years may even, in fact, signal the near exhaustion of this type of income growth (see Chapter 4). Moreover, there are significant costs and problems associated with this type of growth, one of the most significant being the lack of affordable, adequate child care.

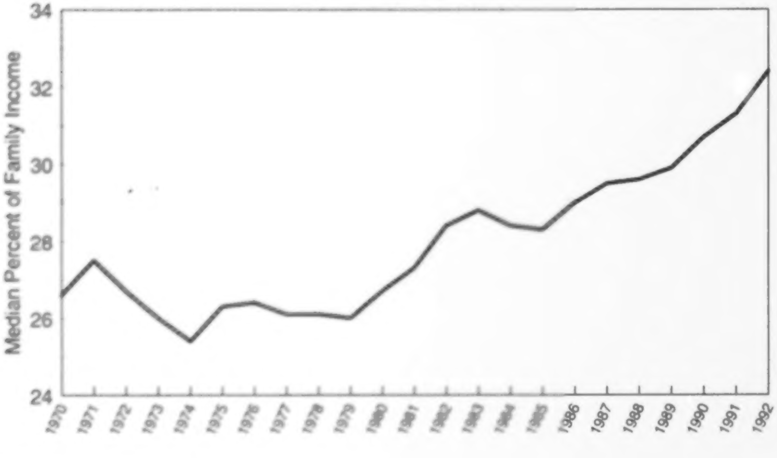
The problem is not that more women or mothers are working, but that they are doing so because it is the only way to maintain family incomes in the face of lower real wages. Increased work elicited through falling real wages is a sign of poor performance of the economy. In addition, it is clearly second-best for families to obtain higher incomes by working more hours and having more members in the paid labor force than by earning higher wages.

Married-couple families (78% of all families in 1992, Table 1.5) are most able to increase income through greater work effort because there are two potential adult workers. Single-parent families and individuals, however, can only increase work effort by having the adult work more weekly hours and/or more weeks in a year. It is for this reason that we focus first on the greater work hours of married couples.

Figure 1I, which graphs the median percent of total family income contributed by wives' earnings for all families with working wives, shows the growing importance of wives' earnings since 1970. The median percent contribution of working wives grew from around 26% of family income in 1979 to 32% in 1992. Note that all of the growth in this series occurred after 1980, when family income growth was slowest.

The income growth in total and by type of income among married-couple families with children is shown in **Table 1.24**. Among the bottom two-fifths

FIGURE 1I
Working Wives' Contribution as Median Percent of Family Income, 1970-92



Source: Hayghe (1993).

TABLE 1.24
Changes in Incomes of Married-Couple Families With Children, by Source, 1979-89
(1993 Dollars)

Year	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Average
Family Income						
1979	$18,728	$34,487	$45,335	$58,063	$90,536	$49,429
1989	18,002	34,539	47,342	63,095	104,263	53,449
Percent Change	-3.9%	0.2%	4.4%	8.7%	15.2%	8.1%
Dollar Change by Source						
Total	$-726	$52	$2,008	$5,032	$13,726	$4,019
Wives' Earnings	992	2,412	3,808	4,915	8,119	4,020
Husbands' Earnings	-1,676	-2,275	-1,601	331	6,506	145
Other Income	-42	-85	-199	-214	-898	-146

Source: JEC (1992).

there were either stagnant or falling incomes from 1979 to 1989 (the years for which the most recent data of this sort are available), while the middle-fifth achieved modest growth (4.4% over 10 years, or 0.43% annually). In contrast, the best-off married couples with children had far faster (15.2%) income growth.

The data in Table 1.24 also show that the earnings of husbands and other incomes (capital incomes and transfers) fell among the bottom 60% while the earnings of wives grew in each income fifth. It is apparent that the rapid income growth among the top fifth was the result of a growth in both husbands' and wives' earnings, and that the stagnant or falling incomes in the bottom two-fifths resulted from the fact that the higher earnings of wives could at best offset the fall in husbands' earnings. On average, all of the growth in the incomes of married-couple families with children can be attributed to the higher earnings of the wives.

Table 1.25 presents the growth in annual hours worked by husbands and wives and shows that it is more work, rather than higher hourly wages, that has fueled income growth. The data on the growth in the hours of "All Husbands" and "All Wives" reflect changes in the hours of "Employed Husbands" and "Employed Wives" as well as changes in the proportion of husbands and wives employed in the year. As the data show, the drop in husbands' annual earnings from 1979 to 1989 (Table 1.24) occurred despite the fact that husbands were working more, not fewer, hours (except for a slight drop in the bottom fifth). In 1989, the average husband (including some not employed) in the second to top fifths worked at least full time and year-round (2,080 hours, or 40 hours for 52 weeks).

Husbands' annual earnings fell in the bottom 60% of these families because of the erosion of their hourly wages, which fell 5.5% for husbands in the middle fifth and 11.8% for husbands in the lowest fifth **(Table 1.26)**. Hourly wages grew only for husbands in the best-off fifth of families, by 7.8% from 1979 to 1989. The reduction in the hourly wages of husbands, the general trend in the 1979-89 period, led to their having lower annual earnings despite an increase in annual work hours.

As we have discussed, it was the greater earnings of the wives in these families that either moderated or counterbalanced the impact of the falling wages of husbands. The average wife in a married-couple family with children was employed 32.3% more hours in 1989 than in 1979 (Table 1.25), a growth of 268 hours annually or the equivalent of nearly seven weeks of full-time work (see **Figure 1J**). There was at least a 40% growth in work hours

TABLE 1.25
Husbands' and Wives' Hours of Work, 1979-89

Family Member*	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Average
Annual Hours, All Husbands						
1979	1,693	2,115	2,189	2,249	2,349	2,122
1989	1,682	2,138	2,211	2,274	2,411	2,143
Percent Change	-0.6%	1.1%	1.0%	1.1%	2.6%	1.0%
Absolute Change	-11	23	22	25	62	21
Annual Hours, Employed Husbands						
1979	1,996	2,180	2,224	2,273	2,372	2,211
1989	1,958	2,207	2,239	2,299	2,428	2,234
Percent Change	-1.9%	1.2%	0.7%	1.1%	2.4%	1.0%
Absolute Change	-38	27	15	26	56	23
Annual Hours, All Wives						
1979	450	708	852	1,078	1,068	831
1989	651	996	1,193	1,311	1,341	1,099
Percent Change	44.7%	40.7%	40.0%	21.6%	25.6%	32.3%
Absolute Change	201	288	431	233	273	268
Annual Hours, Employed Wives						
1979	1,001	1,226	1,314	1,478	1,567	1,347
1989	1,181	1,414	1,554	1,624	1,694	1,516
Percent Change	18.0%	15.0%	18.0%	10.0%	8.0%	13.0%
Absolute Change	180	188	240	146	127	169

---

*In married-couple families with children.

Source: JEC (1992).

among women in the bottom 60% of these families, nearly double the increase among wives in the better-off families. Thus, the modest or falling incomes among families in the bottom three-fifths occurred despite significantly more work effort by these families and, in particular, by the wives in these families. These greater working hours were the result both of a higher proportion of wives being employed and of employed wives working more hours (up from 15% to 18% in the bottom three-fifths). In fact, 63% of the 268 hours of growth in the average wives' work years was the result of employed wives increasing their hours.

TABLE 1.26
Change in Hourly Wages of Husbands and Wives, 1979-89 (1993 Dollars)

Family Member*	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Average
Husbands' Hourly Wage						
1979	$7.97	$12.76	$15.92	$18.62	$25.92	$16.24
1989	7.03	11.55	15.04	18.56	27.94	16.03
Percent Change	-11.8%	-9.5%	-5.5%	-0.3%	7.8%	-1.3%
Dollar Change	$-0.94	$-1.21	$-0.87	$-0.06	$2.03	$-0.21
Wives' Hourly Wage						
1979	$5.32	$7.01	$8.45	$9.79	$12.62	$9.29
1989	5.20	7.40	9.23	11.80	16.11	10.68
Percent Change	-2.2%	5.7%	9.2%	20.5%	27.6%	15.0%
Dollar Change	$-0.12	$0.40	$0.78	$2.01	$3.49	$1.39

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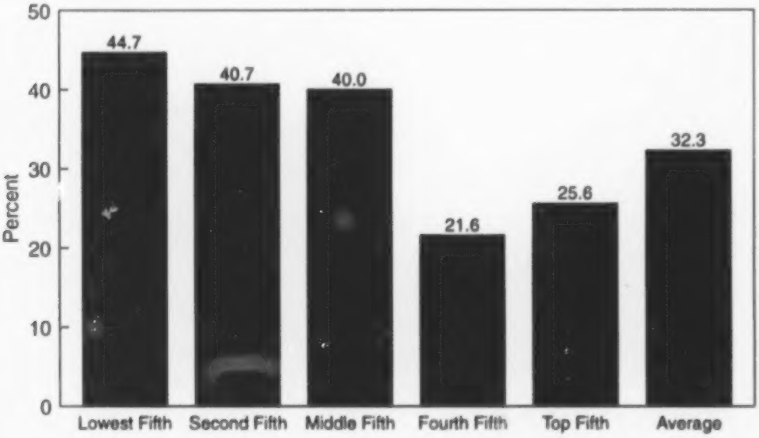
*In married-couple families with children.

Source: JEC (1992).

FIGURE 1J
Percent Growth in Annual Hours Worked by All Wives, 1979-89



Source: JEC (1992).

It is useful to note the degree to which an increase in wives' hours is necessary to offset the fall in the wages of husbands, given that men earn significantly higher hourly wages. For example, the $0.87 drop in the hourly wage of husbands in the middle fifth from 1979 to 1989 (working 2,221 annual hours) created an annual loss of $1,932. Replacing this income would require a wife in the middle fifth (earning $9.23 hourly) to work 213 additional hours annually, or more than five extra full-time weeks.

Table 1.27 brings together the information from the prior tables to identify the role of increased earnings and hours worked by wives on family in-

TABLE 1.27
Role of Higher Wives' Earnings and Hours on Family Income Growth, 1979-89*
(1993 Dollars)

Income	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Average
Change in Family Income						
Percent	-3.9%	0.2%	4.4%	8.7%	15.2%	8.1%
Dollar	$-726	$52	$2,008	$5,032	$13,726	$4,019
Change in Family Income Without Higher Wives' Earnings						
Percent	-9.2%	-6.8%	-4.0%	0.2%	6.2%	0.0%
Dollar	$-1,718	$-2,360	$-1,800	$117	$5,608	$-1
Change in Family Income Without Higher Wives' Hours						
Percent	-9.5%	-6.0%	-2.5%	3.9%	10.3%	2.3%
Dollar	$-1,520	$-1,784	$-978	$1,958	$8,001	$992
Effect on Family Income of Higher:						
a. *Wives' Earnings*						
Percent	5.3%	7.0%	8.4%	8.5%	9.0%	8.1%
Dollar	$992	$2,412	$3,808	$4,915	$8,119	$4,020
b. *Wives' Hours*						
Percent	5.6%	6.2%	6.9%	4.7%	4.9%	5.8%
Dollar	$1,045	$2,131	$3,148	$2,750	$4,403	$2,863

*Married couples with children.

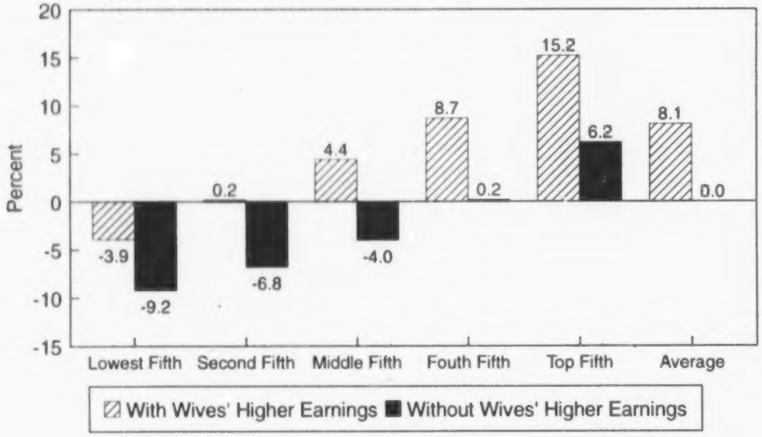
Source: Authors' analysis of JEC (1992) data.

come growth. The essential point is that, without the increase in the earnings of wives, the lowest three-fifths would have experienced lower increases in 1989 than in 1979, and the fourth fifth would have received a trivial $117 income boost (see **Figure 1K**). In other words, only the top fifth did not depend on increased earnings from wives to obtain income growth or stem an income decline. The entire 8.1% growth in the average income of married-couple families with children from 1979 to 1989 can be attributed to the increased earnings of wives (see the 0.0% growth in the last column of the second panel of Table 1.27).

Most of the contribution to the increased earnings of wives came from greater hours of work. If the average wife in the bottom three-fifths had not worked more hours, income would have fallen between 1979 and 1989.

Have the growing earnings of wives contributed to the growth of income inequality? The notion that the growth of "two-earner" families has contributed to growing inequality is intuitively plausible if one thinks that there has been a growth of high-wage employed women marrying high-wage men. It is true, in fact, that wives in higher-income families earn more than those

FIGURE 1K
Growth in Family Income by Wives' Higher Earnings, 1979-89



Source: JEC (1992).

in other families and that their hourly wages have grown the quickest (Table 1.26). However, the fastest growth in work hours has been among the wives in the bottom three-fifths (Table 1.25), and the effect of wives' earnings on family income growth has been fairly even, with a somewhat lower effect in the lowest two-fifths (Table 1.27). The data discussed so far, however, only indirectly relate to whether the pattern of growth of wives' earnings led to greater inequality and do not address whether inequality would be higher or lower without any earnings from wives.

The data in **Table 1.28** allow a direct examination of the effect of wives' earnings on income inequality from 1979 to 1989 and on the growth of inequality over that period. In 1979, the availability of wives' earnings led to a more equal distribution of income. For instance, without wives' earnings the lowest fifth would have had a 6.9% share of total income; it had a 7.6% share with these earnings. Overall in 1979, wives' earnings increased the income shares of the bottom four-fifths and decreased the share of in-

TABLE 1.28
Effect of Wives' Earnings on Income Shares Among Married Couples With Children, 1979-89

	Shares of Income					
Income	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Total
Family Income, 1979						
Actual	7.6%	14.0%	18.3%	23.5%	36.6%	100.0%
Without Wives' Earnings	6.9	13.3	18.0	23.4	38.5	100.0
Effect of Wives' Earnings	0.7	0.7	0.3	0.1	-1.9	0.0
Family Income, 1989						
Actual	6.7%	12.9%	17.7%	23.6%	39.0%	100.0%
Without Wives' Earnings	5.8	12.0	17.0	23.2	41.8	100.0
Effect of Wives' Earnings	0.9	0.9	0.7	0.4	-2.8	0.0
Change in Income Shares, 1979-89						
Actual	-0.9%	-1.1%	-0.6%	0.1%	2.4%	0.0%
Without Wives' Earnings	-1.1	-1.3	-1.0	-0.2	3.3	0.0
Effect of Wives' Earnings	0.2	0.2	0.4	0.3	-0.9	0.0

Source: JEC (1992).

come of the top fifth by 1.9 percentage points. By 1989, the availability of wives' earnings had an even larger effect on raising the income shares of the lowest 80% of families and on lessening the income share of the top fifth.

Thus, the earnings of wives disproportionately augmented the incomes of the broad middle class and the lowest-income families in 1979 and even more so in 1989. This pattern created a tendency for incomes of the bottom 80% to grow faster than the incomes of the top fifth.

Although egalitarian in nature, the effect of increased incomes from the earnings of wives was not sufficient to forestall the overall growth of inequality and the loss of income shares by the lowest three-fifths. Nevertheless, instead of a 1.0 percentage-point drop in income share for the middle fifth between 1979 and 1989, wives' earnings meant a lesser 0.6% drop. Greater wives' earnings, however, enabled the fourth fifth to avoid a 0.2 percentage-point loss in income share. The pattern of earnings growth among wives, therefore, ameliorated rather than exacerbated the growth in inequality among married-couple families with children from 1979 to 1989, at least as reflected by the lesser loss of shares of income of the bottom 80%.

The growth in work hours in the 1979-89 period took place on average in all families and not just in married-couple families with children (to whom all of the data previously presented applied). As **Table 1.29** shows, there were greater hours of work in 1989 than in 1979 among families in each income fifth and 2.3% greater hours overall. The largest growth in hours was among nonelderly married-couple families, especially those without children. This makes sense, since families with two adults present (compared to single-parent families, for instance) have more potential labor time to offer employers. Regardless, there was also a significant growth in hours among nonelderly single people from 1979 to 1989.

Because greater earnings from wives can contribute to greater income growth for married-couple families but not for single-parent families or individuals, it is possible that greater wives' earnings may have contributed to growing inequality among all families. For instance, if increased wives' earnings raised the incomes of married couples, as they did, and increased work effort did not raise the incomes of single-parent families or of individuals to the same degree, then overall income inequality would grow.

Table 1.30 uses two measures of income inequality (the Gini coefficient and the squared coefficient of variation; higher numbers indicate greater inequality) to examine the effect of wives' earnings on inequality among

TABLE 1.29
Changes in Hours Worked in All Families and in Married-Couple Families, 1979-89

	Annual Hours of Work*					
Family Type	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Total
All Families						
1979	820	1,800	2,480	3,010	3,440	2,280
1989	850	1,840	2,550	3,020	3,510	2,330
Percentage Change	4.6%	2.4%	2.6%	0.5%	2.0%	2.3%
Married Couples With Children						
1979	2,240	2,950	3,270	3,600	3,990	3,250
1989	2,350	3,250	3,580	3,860	4,090	3,460
Percentage Change	4.6%	10.0%	9.6%	7.2%	2.5%	6.6%
Nonelderly Childless Married Couples						
1979	1,980	3,110	3,590	3,910	4,140	3,330
1989	2,150	3,390	3,890	4,270	4,410	3,610
Percentage Change	8.7%	8.9%	8.3%	9.3%	6.6%	8.5%
Nonelderly Individuals						
1979	590	1,350	1,820	2,030	2,160	1,590
1989	640	1,540	1,940	2,090	2,240	1,690
Percentage Change	7.0%	14.2%	6.5%	2.8%	4.0%	6.2%

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*Rounded to nearest 10, with percent changes calculated from actual numbers.

Source: Green Book (1992).

married-couple families and all families in particular years (1968, 1978, and 1988, the latest year for which data of this type are available) and on the growth of inequality over the 1968-88 period. These data confirm our earlier analysis that, among married couples, wives' earnings led to lesser income inequality in any particular year and that the effect of greater wives' earnings has been to ameliorate the growth of inequality. For instance, income inequality among married couples in 1968 was, according to the two measures, either 17.4% or 6.2% less than if there had been no wives' earnings. Greater wives' earnings had a strong egalitarian impact on married couples' incomes from 1968 to 1978 (reducing inequality by 20.0% in 1978 rather than 17.4% in 1968, using the squared CV, or by 8.5% in 1978 rather

TABLE 1.30
Effect of Wives' Earnings on Income Inequality Among All Families and Married Couples, 1968-88

By Family Type and Inequality Measure*	Inequality Among Families and Married Couples			Percent Change	
	1968	1978	1988	1968-78	1978-88
Married Couples					
(a) *Squared CV of:*					
Total Family Income	0.38	0.32	0.41	15.8%	28.1%
Less Wives' Earnings	0.46	0.40	0.52	-13.0	30.0
Percent Change	-17.4%	-20.0%	-21.2%		
(b) *Gini Coefficient of:*					
Total Family Income	0.305	0.300	0.336	-1.6%	12.0%
Less Wives' Earnings	0.325	0.328	0.368	0.9%	12.2%
Percent Change	-6.2%	-8.5%	-8.7%		
All Families					
(a) *Squared CV of:*					
Total Family Income	0.51	0.51	0.66	0.0%	29.4%
Less Wives' Earnings	0.56	0.55	0.69	-1.8	25.5
Percent Change	-8.9%	-7.3%	-4.3%		
(b) *Gini Coefficient of:*					
Total Family Income	0.359	0.381	0.422	6.1%	10.8%
Less Wives' Earnings	0.366	0.384	0.420	4.9	9.8
Percent Change	-1.9%	-0.8%	0.5%		

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* The squared coefficient of variation (CV) and the Gini coefficient are measures of inequality for which higher values indicate greater inequality.

Source: Cancian, Danziger, and Gottschalk (1992).

than 6.2% in 1968, using the Gini coefficient). Between 1978 and 1988, however, the pattern of growth of wives' earnings in married-couple families led only to a slightly greater decrease in inequality.

Although greater wives' earnings have created more equal incomes among married couples, they have made a lesser contribution to overall family inequality since 1968. By both measures the presence of wives' earnings lessened overall family income inequality in 1968 (panel 2), although only slightly according to the Gini coefficient. However, the egalitarian effect of wives' earnings lessened from 1968 to 1988, particularly in the 1980s. In fact, the Gini coefficient measure shows a slight disequalizing effect of wives' earnings on all families in 1988.

Nevertheless, the changing pattern of wives' earnings played a very small role in the overall growth of family income inequality in the 1980s. This can be seen by comparing the increase in income inequality that actually occurred and that which would have occurred if there were no earnings from wives (the last column of Table 1.30). Total family income inequality grew a great deal from 1978 to 1988, according to both measures, after growing more slowly or falling (for married couples) in the prior 10 years. The growth in inequality between all families from 1978 to 1988 would have been only slightly smaller (9.8% versus 10.8% or 25.5% versus 29.4%) without the presence of wives' earnings.

Another way of assessing the effect of the changing pattern of wives' earnings on income inequality is to compute the hypothetical level of inequality that would have prevailed in 1988 if wives' earnings had as egalitarian an impact as in 1978. For instance, if wives' earnings had reduced inequality by 7.3% in 1988 as they did in 1978 (using the squared CV), then the level of inequality would have been 0.64, and inequality between 1978 and 1988 would have grown by 25.4% (from 0.51 to 0.64) rather than by the actual 29.4% (from 0.51 to 0.66). According to the Gini coefficient, if wives' earnings had the same equalizing effect on incomes in 1988 as in 1978, then inequality would have grown 9.4% rather than the actual 10.8%.

As we noted in the introduction to this section, another cost of having family members spend more time in the paid labor force is the erosion of leisure time. The trends in parents' annual hours of work broken down into paid labor-market work and unpaid household "nonmarket" work (shopping, child care, cooking, repairs, laundry, etc.) from 1969 to 1989 are presented in **Table 1.31**. The total amount of work has increased in this period, and it was not offset by a decline in nonmarket hours. This trend suggests that parents have less leisure time.

For instance, the average parent was employed for 72 more hours in 1989 than in 1969, but also had 67 more hours of nonmarket work. The average parents' work year thus rose by 139 hours over this time period, equivalent to three and a half full-time weeks of work. Total hours rose for both mothers and fathers. The increase in the average mother's market hours was only partially offset by lesser nonmarket hours; the average father did not increase his market hours by much (he was already a full-time, year-round worker with over 2,300 annual market hours), but he did put in 128 more nonmarket hours annually in 1989 than in 1969.

Table 1.31
Hours Worked by Employed Parents by Gender, 1969 and 1989

Family	Market Hours			Nonmarket Hours			Total Hours		
Member*	1969	1989	Change	1969	1989	Change	1969	1989	Change
All Parents	1,916	1,988	72	1,034	1,101	67	2,950	3,089	139
Mothers	1,281	1,627	346	1,583	1,402	-181	2,864	3,029	165
Fathers	2,316	2,330	14	688	816	128	3,004	3,146	142

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* Limited to parents without involuntary leisure due to unemployment or short hours (involuntary part-time work).

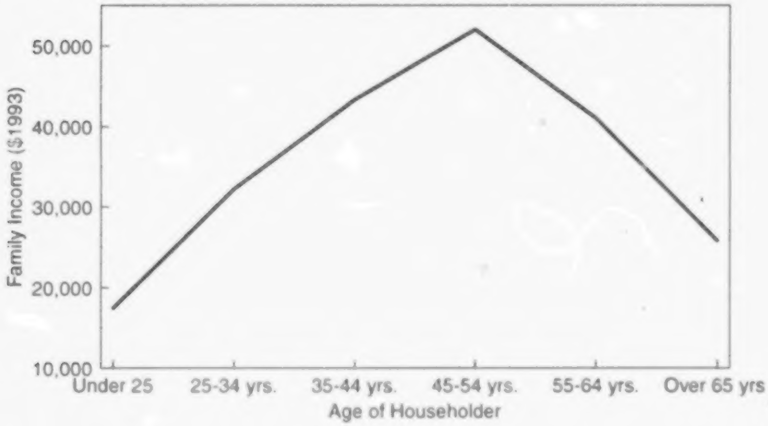
Source: Leete-Guy and Schor (1992).

Falling Behind the Earlier Generations

Until this point we have exclusively focused on cross-section comparisons, such as comparing the incomes of high-income, older, or married-couple families in one year to those of another. Although these comparisons accurately portray changes in various dimensions of the income distribution over time, they do not trace the incomes of particular families or individuals. For instance, consider comparisons of income growth by income fifth over a 10-year period. A person or family may be in the middle fifth in the first year but in a higher or lower fifth 10 years later. Thus, a comparison of middle-income families over time actually compares one set of families in the first year to a different set of families in the later year.

It is especially important to note that the incomes of individuals and families generally follow a life-cycle pattern. Typically, a person, after completing schooling, starts earning income in a relatively low-paying entry-level job; sees fast income growth as job changes, accumulated experience, and seniority occur over the next two decades; and obtains slower income growth in his or her later working years. As **Figure 1L** shows, young families (headed by a person in his or her twenties) in 1989 had much lower incomes than families headed by a middle-aged person (in his or her forties or fifties). It also shows that incomes grow relatively rapidly as the household head proceeds through his or her thirties and forties, and that income growth slackens and then declines as the household head approaches retirement years.

FIGURE 1L
Family Income by Age of Householder, 1993



Source: U.S. Bureau of the Census (1994).

Viewed this way, the income growth of families as a whole over a 10-year period depends both on how high incomes are for young families when they start out and on how fast incomes grow as families progress through their life-cycle pattern. In fact, the slow growth of median family incomes in recent years is most accurately portrayed as young families starting off with lower incomes than their predecessors and other families proceeding to higher incomes at a historically slow pace. Note that it is even possible for average family income to fall over a 10-year period even though each family may have achieved higher incomes over the period. (The mechanism of income decline could be much lower starting incomes for the youngest families and very slow growth of family incomes.)

No data are available that can trace the income growth of particular people or families over their life cycles. However, it is possible to examine the income trajectories of "birth cohorts" (a group of similarly aged persons or families) over time, as in **Table 1.32** and **Figure IM**. For ease of presentation, we number each post-war birth cohort, with 1 being the earliest cohort. It includes the families headed by someone born between 1925 and 1934 and whom we first observe in 1949 as families with a household head 24 years

TABLE 1.32
Income Growth by Cohort (1993 Dollars)

Year/Cohort		Median Family Income by Age of Household Head				
		15 to 24	25 to 34	35 to 44	45 to 54	55 to 64
By Cohort	**Cohort Number**					
Born 1965-74	5	$19,885				
Born 1955-64	4	25,406	$35,977			
Born 1945-54	3	24,444	37,703	$46,848		
Born 1935-44	2	17,673	34,837	44,744	$53,723	
Born 1925-34	1	13,189	25,260	40,204	49,404	$43,866
By Year						
1989		$19,885	$35,977	$46,848	$53,723	$43,866
1979		25,406	37,703	44,744	49,404	
1969		24,444	34,837	40,204		
1959		17,673	25,260			
1949		13,189				

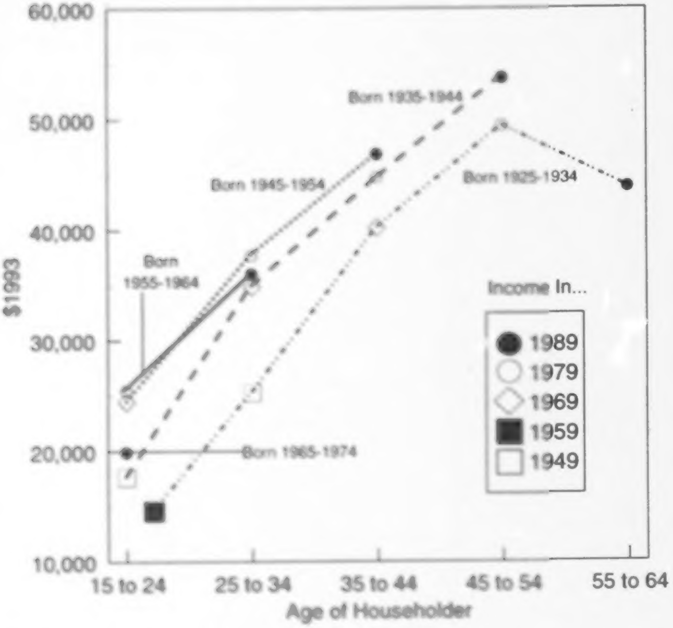
Source: U.S. Bureau of the Census, unpublished.

old or less. The latest cohort, number 5, consists of families headed by someone born between 1965 and 1974. We can observe the incomes of this youngest cohort only in 1989, when the family head is 24 years old or less.

The bottom line of Figure 1M shows the income trajectory of cohort 1. These families had a median income of just $13,189 in 1949 as they started out, but saw their incomes rise by 59.2% to $25,260 by 1959, to $40,204 by 1969, and to $49,404 by 1979 (in 1993 dollars). The second cohort (born between 1935 and 1944) started out with a higher income than cohort 1 ($17,673 versus $13,189) and achieved higher incomes at each age level. The same pattern holds for cohort 3, which we first observe in 1969 with incomes of $24,444, significantly higher than that of the two earlier cohorts when they started out. Cohort 3, headed by someone aged 35-44 years old in 1989, earned $46,848 and was still ahead of the prior cohorts when they were similarly aged ($44,743 and $40,204).

The post-war pattern of upward income mobility was broken for the fourth cohort. This cohort, which was born between 1955 and 1964, started out in 1979 with higher incomes than the earlier cohorts had at that age. However, 10 years later, when the fourth cohort was in its late twenties and early thirties, its incomes were less than that attained by the earlier cohort (3) at simi-

FIGURE 1M
Median Family Income by Cohort and Age, 1949-89



Source: Authors' analysis.

lar ages ($35,977 versus $37,703). Matters have worsened for the most recent cohort (5), which started out in 1989 with a median income of $19,885, significantly behind the starting incomes of the prior two cohorts. It is also possible that slow income growth could lead the third cohort to fail to achieve the incomes of the second cohort at ages 45 to 54 ($53,723).

The break in upward income mobility across cohorts raises the issue of whether the two, and maybe the three, most recent cohorts (those born after 1945 or 1955) will ever achieve incomes equal to those of the earlier postwar cohorts. Given continued slow income growth and falling real wages (see Chapter 3) in the 1990s, it is very possible that the recent (and some future) cohorts will have lifetime incomes inferior to those of their parents' generation.

Income Mobility Shifts Down

The previous section examined the growth in median family income of the various post-war age cohorts and found that the recent sets of younger families were starting out with lower incomes and achieving slower growth in incomes over their twenties and thirties. This section compares the income growth of families (adjusted for family size) over the 1970s and 1980s using "panel" data that track the same set of families over time. These panel data provide information on the degree of family income mobility in certain periods as reflected in the ability of particular families to start with low incomes and end with high incomes, or vice versa.

There are several reasons for interest in income mobility. One is that an individual's ability to achieve a relatively higher income, or move up the income ladder, reflects a more fluid and open society and greater opportunities for advancement. Moreover, if upward mobility is more possible there may be a lesser concern about the growing inequality of what jobs pay, since an individual's chance of getting a well-paid job has improved. Finally, the negative trends documented thus far are sometimes criticized as missing the economic progress of particular families over time. In fact, the findings below corroborate the negative trends from the cross-sectional analysis.

The following three tables examine the income mobility of prime-age adults, persons who began each decade between the ages of 22 and 48 and ended the decade between 32 and 58. In order to temper the effects of transitory income changes (dips or spikes that do not reflect long-term income trajectories), income changes are measured between three-year averages at the beginning and end of each decade. Persons are then grouped by the extent to which their family income grew or fell. The categories are: significant losses of 25% or more, small losses up to 25%, small gains up to 40%, medium gains between 40% and 80%, and large gains greater than 80%.

Table 1.33 shows that there were more losers and fewer gainers in the 1980s versus the 1970s. While 9.2% of prime-age persons experienced a loss of at least 25% of their family income in the 1970s, 16.3% experienced such losses over the 1980s. Despite a slight increase in small gainers over the 1980s (0.3%), virtually all of these losses were reflected in the reduced share of medium and large gainers, underscoring the extent of relatively greater downward mobility over the 1980s. Income losses were experienced by persons of all ages, but were generally more acute for younger persons (those between 34 and 43 in 1989). However, slightly under twice the share of persons 54-58 in 1989 had big losses as did so a decade earlier.

TABLE 1.33
Income Mobility in the 1970s and 1980s, Prime-Age Persons,* by Age Level at End of Decade

Age at End of Decade	Loss of 25% or More	Loss of Up to 25%	Gain of Up to 40%	Gain of 40%-80%	Gain of More Than 80%	All
1970s						
All	9.2%	11.9%	26.8%	21.4%	30.7%	100.0%
34-38	12.4	16.5	26.6	17.6	26.9	100.0
39-43	8.4	11.2	27.6	21.8	31.0	100.0
44-48	6.9	10.0	23.9	20.2	39.0	100.0
49-53	5.6	8.3	26.6	23.7	35.7	100.0
54-58	13.4	13.7	29.8	23.9	19.2	100.0
1980s						
All	16.3%	16.4%	27.2%	19.8%	20.4%	100.0%
34-38	18.9	19.6	25.5	15.8	20.0	100.0
39-43	14.3	17.5	28.0	21.6	18.6	100.0
44-48	10.6	12.8	27.4	22.5	26.8	100.0
49-53	13.2	13.7	30.3	20.7	22.1	100.0
54-58	25.1	15.4	25.5	19.6	14.4	100.0
Change, 1970s-80s						
All	7.1	4.5	0.3	-1.6	-10.3	0.0
34-38	6.6	3.2	-1.1	-1.8	-6.7	0.0
39-43	6.0	6.2	0.3	-0.2	-12.3	0.0
44-48	3.7	2.8	3.4	2.3	-12.3	0.0
49-53	7.6	5.4	3.7	-3.0	-13.7	0.0
54-58	11.7	1.7	-4.3	-4.3	-4.8	0.0

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* These are persons who began each decade between 22 and 48 and ended each decade between 32 and 58.

Source: Rose (1993).

In Chapter 3, we examine the importance of rising education differentials in the increase in earnings inequality. **Table 1.34** shows the impact of this trend in the context of increased income inequality. (Other trends, such as the real decline of transfers to the poor, are also a factor here.) The table shows gains and losses to have been fairly uniform among education levels in the 1970s, but much less uniform in the 1980s. For example, a similar share of dropouts and college-educated persons experienced large gains in the 1970s (33.5% and 32.6%); in the 1980s, however, the share of large gainers was much larger for college graduates (16.5% versus 27.6%). As in the

TABLE 1.34
Income Mobility in the 1970s and 1980s, Prime-Age Persons,* by Education Level

Education	Loss of 25% or More	Loss of Up to 25%	Gain of Up to 40%	Gain of 40%-80%	Gain of More Than 80%	All
1970s						
All	9.2%	11.9%	26.8%	21.4%	30.7%	100.0%
Less Than 12 Years	10.5	10.5	26.3	19.2	33.5	100.0
High School Graduates	8.4	14.0	28.0	21.7	28.0	100.0
Some College	12.9	11.1	28.7	20.3	27.0	100.0
College or More	6.4	10.9	24.9	25.1	32.6	100.0
1980s						
All	16.3%	16.4%	27.2%	19.8%	20.4%	100.0%
Less Than 12 Years	23.5	19.3	24.2	16.4	16.5	100.0
High School Graduates	17.2	16.1	30.1	21.2	15.4	100.0
Some College	17.1	15.7	26.5	19.7	21.0	100.0
College or More	9.5	15.5	26.4	21.0	27.6	100.0
Change, 1970s-80s						
All	7.1	4.5	0.3	-1.6	-10.3	0.0
Less Than 12 Years	13.0	8.8	-2.0	-2.8	-17.0	0.0
High School Graduates	8.8	2.1	2.2	-0.5	-12.6	0.0
Some College	4.2	4.6	-2.2	-0.6	-6.0	0.0
College or More	3.0	4.6	1.5	-4.1	-5.0	0.0

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* These are persons who began each decade between 22 and 48 and ended each decade between 32 and 58.

Source: Rose (1993).

previous table, panel 3 (share changes) shows the shift toward lower mobility in the later period. Note that higher levels of education served to protect family members from these negative trends, as persons with less education were more likely to lose (and less likely to gain) income in the 1980s.

Finally, **Table 1.35** and **Figure 1N** show that members of black families have suffered large losses relative to whites. As it was for people at different education levels, growth was fairly uniform between whites and blacks over the 1970s. For example, 21.1% of whites and 22.9% of blacks lost ground over the 1970s (the sum of shares in the two loss categories). Over the 1980s, however, 31.7% of whites and 42.0% of blacks experienced income decline. This large share of income losers among blacks is driven by an almost doubling of the share with big losses, from 12.3% over the 1970s to 24.2% over the 1980s.

Thus, the reduced mobility revealed by the panel data provide similar

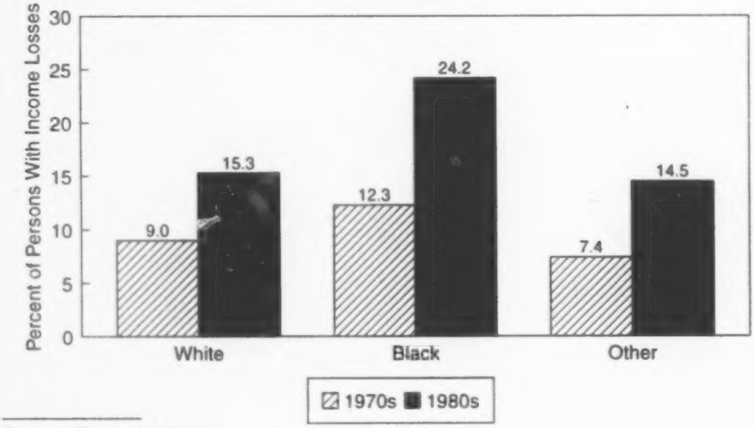
TABLE 1.35
Income Mobility in the 1970s and 1980s, Prime-Age Persons,* by Race

Race	Loss of 25% or More	Loss of Up to 25%	Gain of Up to 40%	Gain of 40%-80%	Gain of More Than 80%	All
1970s						
All	9.2%	11.9%	26.8%	21.4%	30.7%	100.0%
White	9.0	12.1	26.5	21.8	30.5	100.0
Black	12.3	10.6	28.7	18.6	29.8	100.0
1980s						
All	16.3%	16.4%	27.2%	19.8%	20.4%	100.0%
White	15.3	16.4	27.4	20.3	20.7	100.0
Black	24.2	17.8	25.4	16.3	16.2	100.0
Change, 1970s-80s						
All	7.1	4.5	0.3	-1.6	-10.3	0.0
White	6.4	4.3	0.8	-1.6	-9.9	0.0
Black	12.0	7.2	-3.3	-2.3	-13.6	0.0

* These are persons who began each decade between 22 and 48 and ended each decade between 32 and 58.

Source: Rose (1993).

FIGURE 1N
Percent of Prime-Age Persons With Income Loss of 25% or More, 1970s-80s



Source: Rose (1993).

results to those from the cross-sectional data in the rest of this chapter. The likelihood that the average prime-age family member would lose ground grew over the 1980s, and this probability was heightened for persons who were young, black, or non-college educated. Although a slightly larger share of persons experienced a small gain in the later period, 11.9% fewer experienced medium and large gains.

Economic Trends, Income Inequality, and Social Distress

In later chapters we explore the impact of a variety of negative trends on family economic well-being, with a particular focus on the effects of wage decline, increased wage inequality, and unemployment. We close by briefly highlighting the impact of these trends on family earnings and income.

Table 1.36 shows these effects for each quintile, based on a model that

TABLE 1.36
Effect of Growth of Wages, Wage Inequality, and Unemployment on Family Earnings and Income by Income Fifth, 1973-91

Factor*	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Highest Fifth	All Fifths
Effect on Annual Family Earnings of Growth of:						
1% Hourly Wage	0.8%	0.8%	0.7%	0.6%	0.6%	0.6%
1% Wage Inequality	-0.7	-0.8	-0.3	0.2	0.5	0.0
1% Point Unemployment	-3.7	-3.7	-1.8	-1.4	-1.4	-1.7
Effect on Annual Family Income of Growth of:						
1% Hourly Wage	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
1% Wage Inequality	-0.5	-0.5	0.1	0.3	0.4	0.0
1% Point Unemployment	-1.4	-1.7	-1.3	-1.2	-1.4	-1.4

Addendum	1979	1989	Change
Median Hourly Wage ($93)	$10.43	$10.21	-2.1%
Standard Deviation Log Wages	0.514	0.571	11.1%
Unemployment Rates	5.8%	5.3%	-0.5

* Based on regressions of nine regional trends over the 1973-91 period with region and year effects and demographic controls. Wage inequality is the standard deviation of log wages.

Sources: Authors' analysis of Blank and Card (1993). Addendum sources: Median wages: Chapter 3, Table 3.6; Standard deviation: Authors' analysis; Unemployment: Blank and Card (1993).

tracks variations in these data from 1973 to 1991. Generally, the table shows that negative wage and employment trends are more harmful to low-income than to high-income families. Thus, a growth of one percentage point in the unemployment rate translates into a 3.7% annual earnings loss for families in the lowest quintile, compared to a 1.4% earnings loss for families in the top fifth. (This result does not hold for family incomes due to the impact of transfers among poor families.) A similar result is seen for wage inequality growth, and, as the addendum to the table shows, wage inequality grew by 11.1% over the 1980s. The response to the overall growth in hourly wages is fairly uniform among families, perhaps surprisingly so. Since unemployment and the median hourly wage barely changed between 1979 and 1989, their trends did not have much effect on income inequality. However, wage inequality grew considerably in this period and was a major force driving inequality.

Recent research has also found a correlation between negative wage and employment trends and a variety of social stressors, including crime and poor health. **Table 1.37** shows the impact of a percentage-point change on health and crime events, based on an analysis of these trends in 28 cities from 1975 to 1990. (Since poverty rates rarely go up by a full point in a given year, the estimates in this column refer to a half-point increase.) For example, a one-point rise in unemployment is associated with a 2.2% increase in heart attacks and a 5.6% increase in homicides. While poverty and wage inequality are not significantly associated with health events, they are both strongly correlated with increases in crime. As above, the addendum shows an increase in poverty rates and wage inequality over the period in question. Combining these estimates and the actual occurrences of crimes in 1990, this research suggests that the rise in poverty from 1989 to 1990 was responsible for 5% of the increase in both homicides and burglaries over that period.

Conclusion

Historically slow income growth over the 1979-89 period was coupled with a surge in income inequality. These trends translated into rapid income growth among upper-income families (62.9% for the top 1%) and stagnant or falling incomes for the bottom 80% of families. Since 1989, median family incomes have fallen for all family types. While we predict that 1993 data will reveal a reversal of this negative trend, the growth in median income is expected to replace at most 30% of the income lost since 1989. The continuation of labor-market problems, examined in detail in the following

TABLE 1.37
Estimated Effects of Unemployment, Poverty, and Wage Inequality on Social Stressors, 1975-90

	Effect of a One Percent-Point Change in:		
	Unemployment	Poverty*	Wage Inequality**
Mortality			
Heart Attack	2.2	n.s.	n.s.
Stroke	1.9	n.s.	n.s.
Suicide	n.s.	n.s.	n.s.
Crime			
Homicide	5.6	2.8	0.59
Aggravated Assault	1.8	2.9	0.57
Forcible Rape	1.9	1.5	n.s.
Larceny/Theft	2.7	1.3	0.28
Motor Vehicle Theft	n.s.	0.9	0.40
Robbery	1.7	2.8	n.s.
Burglary	3.7	2.0	n.s.
Addendum	**1975-79**	**1985-90**	**Change**
Unemployment	7.1%	5.8%	-1.3
Poverty Rates	10.8%	12.7%	1.9
Wage Inequality**	0.265	0.276	0.011

Note: n.s. means not significant.

* Since poverty rarely rises a full point in a year, these are the effects of a half-point change.
** As measured by the Gini ratio, which rises as inequality increases.

Source: Merva and Fowles (1994).

chapters, leads us to conclude that most families will continue to experience the same sluggish income growth that characterized the 1980s.

The remainder of the book elaborates on the themes established in this chapter. In the next chapter we focus on changes in the level and distribution of taxes to examine the extent to which the U.S. tax system has exacerbated or ameliorated the slow and unequal income growth of the 1980s. The third and fourth chapters examine the labor-market trends (wages and employment) that are at the heart of the growth in inequality and sluggish income growth. Chapters 5 and 6 broaden our income analysis by examining trends in wealth and poverty. Chapter 7 examines the impact of trends in health care costs and coverage on family well-being, and Chapter 8 compares trends in the United States to those in other advanced countries.

Chapter 2

Taxes: Despite Recent Progressive Changes, a Further Cause of Worsening Inequality

In Chapter 1, we showed that the pre-tax incomes of most families have stagnated while the incomes of wealthy families have grown significantly. This chapter broadens the analysis by examining the role played by the tax system in these developments. The major finding of this chapter is that federal, state, and local taxes have not ameliorated the economic problems documented in Chapter 1. In fact, between 1977 and 1989, tax changes worsened the distribution of after-tax income by taxing the middle class and the poor more heavily and giving large tax cuts to the richest 1%. Regressive federal tax changes between 1977 and 1989 amounted to an average tax break of $52,621 in 1989 for the richest families.

The Clinton tax package of 1993 (the Omnibus Budget Reconciliation Act of 1993, or OBRA93), however, has restored some progressivity to the federal tax code. The overall effective rate (taxes paid as a share of pre-tax income) for the richest families grew 5.2 percentage points as a result of OBRA93, leading to an 18.5% rise in the tax liability of those families. At the bottom of the income scale, the liability of the poorest 20% of families fell by 28.2%, primarily due to the expansion of the Earned Income Tax Credit (EITC).

Despite even these progressive changes, the post-1977 shift in the federal tax system still delivers a hefty $15,674 tax cut to the wealthiest families in 1995. The causes of this shift include a personal income tax that remains slightly less progressive even after the recent changes, higher payroll taxes, and lower corporate taxes. There has also been a steadily increasing reliance on state and local taxes, which tend to be regressive.

The Tax Burden: Still Light Overall

In comparative terms, taxes have increased little, and the overall U.S. tax burden remains one of the lightest among the Western industrialized countries. **Table 2.1** shows the total tax burden in the United States as a percent of gross domestic product from 1959 to 1993, broken out by federal and state/local contributions. The overall burden gradually edged up during the post-war period but has held relatively constant since 1973 at between 30% and 31% of GDP. However, the state and local burden has grown by 3.3% of GDP over the total period, while the federal burden has grown by only 1.6%. As we show below, the effect of shifting the tax burden to state and local governments is to widen inequality.

TABLE 2.1
Federal vs. State and Local Tax Burdens, 1959-93

	Revenue as Percent of Gross Domestic Product		
Year	Federal	State/Local	Total
1959	18.3%	7.7%	26.0%
1967	18.7	9.6	28.4
1973	19.5	11.6	31.1
1979	20.3	11.0	31.3
1989	20.2	10.6	30.8
1993	19.9	11.0	30.9

Source: Authors' analysis of BEA data.

For detailed information on table sources, see Table Notes, page 371.

Table 2.2 puts the U.S. tax burden in an international context by showing government revenues as a percent of GDP over time for the Organization for Economic Cooperation and Development (OECD) countries (the group of advanced industrial countries). In 1991 (the latest year of available data), the United States had the third-lowest burden. The percentage-point changes in the last column show that, since 1965, every other country has had a greater increase in the ratio of tax revenues to GDP than has the United States. Thus, despite relatively frequent shifts in the composition of taxes, the overall tax burden in the United States has been both low and stable compared to other OECD countries.

TABLE 2.2

Tax Revenues in OECD Countries, 1965-91, as a Percent of GDP (Ranked by 1991 Share)

	Tax Revenues as Percent of GDP*				Percentage-Point Change
Country	1965	1979	1989	1991	1965-91
Sweden	35.2%	49.5%	56.0%	53.2%	18.0
Luxembourg	30.6	40.2	48.2	48.5	17.9
Denmark	29.9	44.5	50.7	48.3	18.4
Norway	33.3	45.7	46.0	47.1	13.8
Netherlands	32.5	45.0	44.9	47.0	14.5
Belgium	31.2	44.5	44.4	44.9	13.7
France	34.5	40.2	43.7	44.2	9.7
Austria	23.2	41.0	41.0	42.1	18.9
Italy	25.5	26.6	37.9	39.7	14.2
Germany	31.6	37.7	38.2	39.2	7.6
Greece	22.0	30.1	33.3	38.3	16.3
Finland	29.5	33.3	37.4	37.7	8.2
Ireland	26.0	31.2	36.9	37.5	11.5
Canada	25.9	30.6	35.5	37.3	11.4
New Zealand	24.7	32.9	38.7	36.0	11.3
U.K.	30.4	32.8	36.7	36.0	5.6
Portugal	18.4	26.0	35.1	35.6	17.2
Spain	14.7	23.4	34.9	34.7	20.0
Switzerland	20.7	31.1	31.7	31.0	10.3
Japan	18.3	24.4	30.7	30.9	12.6
U.S.	**25.8**	**29.0**	**29.7**	**29.8**	**4.0**
Turkey	15.0	20.8	25.4	29.4	14.4
Australia	23.2	27.9	30.6	29.2	6.0

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* Social Security included. United States numbers differ from those in Table 2.1 because the data come from different sources.

Source: OECD (1993).

Despite Recent Progressive Changes, Regressivity Has Increased

Within the context of the relatively low U.S. tax burden, there have been important changes in the *distribution* of taxes. These changes have combined with changes in pre-tax income to enrich the highest-income families—primarily the top 1%—at the expense of almost everyone else. The redistributive effects of the changes in the tax system constitute the primary focus of this chapter.

In order to incorporate the effect of recent tax changes, this section includes an analysis of the Congressional Budget Office's projections of the impact of OBRA93. These projections generally refer to the distribution of taxes and incomes in 1995 based on projected income levels and tax law in that year (Table 2.6 refers to 1994 projections). Given the nature of tax law, the tax rate projections are likely to provide an accurate estimate of the distribution of tax burdens. Predicting the distribution of pre-tax incomes, however, is more difficult, and thus these data represent an expectation of the impact of OBRA93. Also, the years chosen for the federal tax analysis in this section are dictated by the data source and the timing of important tax legislation; therefore, non-peak years appear in some of these tables.

Family income inequality has increased *after* federal taxes just as it has before federal taxes, despite the mitigating effect of recent tax changes. **Table 2.3** looks at the changes in after-tax income between 1977 and 1989, as well as CBO's projections for 1995. The average after-tax income of the top fifth of families grew by 28.1% from 1977 to 1989, but the most dramatic growth occurred among the most wealthy families: the average income of the top 1% of the income distribution grew by 102.2%, after taxes, over this same period. This level of income growth exceeds the pre-tax rate of growth by 24.2 percentage points, meaning that reduced taxation significantly boosted the after-tax incomes of this group in the 1977-89 period. Moreover, the top 1% is the only group whose after-tax growth significantly exceeded its pre-tax growth in this period.

After-tax income trends were different during the 1980s at the other end of the income distribution, with the income of the average family in the bottom 80% of the distribution falling by 1.8% before federal taxes and 2.2% after taxes in the 1977-89 period (Table 2.3). It is particularly striking, in terms of equity, that the poorest members of society posted the biggest percentage declines in after-tax incomes between 1977 and 1989.

The 1989-95 projections reveal the expected progressive changes result-

TABLE 2.3
Average After-Tax Family Income, 1977-95(p)*
(1993 Dollars)

Income Group	After-Tax Income				Percent Change in After-Tax Income		Percent Change in Pre-Tax Income	
	1977	1985	1989	1995(p)	77-89	89-95(p)	77-89	89-95(p)
Bottom Four-Fifths	$23,250	$22,283	$22,733	$22,634	-2.2%	-0.4%	-1.8%	-0.4%
First	8,749	7,573	7,836	7,863	-10.4	0.3	-10.4	-3.3
Second	19,450	17,301	17,496	17,486	-10.1	-0.1	-9.8	-0.5
Third	28,620	26,766	27,139	26,983	-5.2	-0.6	-5.3	-0.3
Fourth	37,658	37,456	38,498	37,946	2.2	-1.4	2.4	-0.8
Top Fifth	$65,448	$78,535	$83,836	$80,341	28.1%	-4.2%	25.4%	-1.1%
81-90%	47,027	50,286	51,455	51,123	9.4	-0.6	9.7	0.6
91-95%	58,931	64,298	67,203	65,175	14.0	-3.0	14.6	-2.0
96-99%	81,180	95,007	100,993	97,804	24.4	-3.2	22.3	-0.5
Top 1%	208,880	366,995	422,426	381,815	102.2	-9.6	78.0	-1.5
All	$31,874	$33,333	$34,671	$33,660	8.8%	-2.9%	8.6%	-1.4%

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* Federal taxes only; (p) indicates Congressional Budget Office (CBO) projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

ing from OBRA93. While pre-tax incomes are projected to fall for almost every income group, the loss of after-tax income is significantly higher for the top 10% of families. Conversely, the bottom 20% of families are expected to gain income from tax changes over this period.

Table 2.4 shows that, between 1977 and 1989, the after-tax income shares of the bottom 90% of the income distribution fell while the after-tax income shares going to the top 10% grew. By 1989, the top 20% of families held almost 50% of total after-tax income, up from 43.9% in 1977 and 44.9% in 1980. Again, most of the gain to the upper quintile was generated by those in the top 1%, who gained 5.1 percentage points in their share of after-tax income over the 1977-89 period, with most of the shift (61%) occurring in the period between 1980 and 1985.

Over the 1989-95 period, a small shift toward income equality is expected: the bottom 95% of families will gain slightly at the expense of the wealthiest 5%. Is this expected shift due to tax policy changes in OBRA93?

TABLE 2.4
Shares of After-Tax Income for All Families, 1977-95(p)*

	After-Tax Income Shares					Percentage-Point Changes	
Income Group	1977	1980	1985	1989	1995(p)	1977-89	1989-95(p)
Bottom Four-Fifths	56.5%	55.6%	51.8%	51.2%	52.5%	-5.3	1.3
First	5.7	5.4	4.4	4.3	4.5	-1.4	0.1
Second	11.6	11.4	10.1	10.1	10.4	-1.5	0.2
Third	16.4	16.2	15.3	15.2	15.5	-1.2	0.3
Fourth	22.7	22.6	22.0	21.5	22.2	-1.2	0.6
Top Fifth	43.9%	44.9%	49.0%	49.9%	48.7%	6.0%	-1.0%
81-90%	15.6	15.3	15.4	15.1	15.2	-0.5	0.1
91-95%	9.9	9.9	10.1	9.9	10.1	0.0	0.2
96-99%	11.4	11.3	12.2	12.5	12.2	1.3	-0.1
Top 1%	7.3	8.4	11.5	12.4	11.4	5.1	-0.6
All	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%

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* Federal taxes only; (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

Table 2.5 examines this question by comparing pre- and after-tax income shares for the 1977-95 period. The table decomposes (i.e., breaks down into its component parts) the change in after-tax income shares since 1977 into those due to pre-tax income shifts (discussed in Chapter 1) and those attributable to federal tax policy shifts.

Column 1 shows that the bottom 90% of families all had a lower after-tax income share in 1989 than in 1977 (as noted in Table 2.4). The bottom 80% of families lost a 5.2% share of total after-tax income during the 1977-89 period, and 4.6 of these points were due to a relative loss of pre-tax income. In contrast, shifts in the distribution of the tax burden lowered the after-tax income share of this group by 0.6 percentage points, or just 12% of the total loss of 5.2 points. Thus, shifts in the tax burden, though significant, were clearly not the primary mechanism of the overall redistribution of income from 1977 to 1989. Nevertheless, as shown in column 5, between 1977

TABLE 2.5
The Effects of Tax and Income Changes on After-Tax Income Shares, 1977-95(p)*

			Change in Shares Due to:			
	Change in After-Tax Shares		Pre-Tax Income Shifts		Lesser Tax Progressivity	
Income Group	(1) 1977-89	(2) 1989-95(p)	(3) 1977-89	(4) 1989-95(p)	(5) 1977-89	(6) 1989-95(p)
Bottom Four-Fifths	-5.2	0.8	-4.6	0.0	-0.6	0.8
First	-1.4	0.1	-1.2	-0.1	-0.2	0.2
Second	-1.5	0.1	-1.3	-0.1	-0.2	0.2
Middle	-1.1	0.2	-1.0	0.0	-0.1	0.2
Fourth	-1.2	0.4	-1.1	0.2	-0.1	0.2
Top Fifth	5.2	-0.8	4.6	0.0	0.6	-0.8
81-90%	-0.5	0.0	-0.4	-0.1	-0.1	0.1
91-95%	0.0	0.1	0.1	0.0	-0.1	0.1
96-99%	1.2	-0.2	1.1	-0.1	0.1	-0.1
Top 1%	4.6	-0.7	3.8	0.2	0.7	-0.8
All	0.0	0.0	0.0	0.0	0.0	0.0

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* Based on a recalculation of the underlying data in Tables 1.10 and 2.4, which force the sum of the shares to be exactly 100%; this is not the case in the original data, because of the inclusion of families with zero or negative income solely in the "All" category. Federal taxes only; (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

and 1989 a less progressive tax structure provided a sizeable 0.7% increase in the after-tax income share of the top 1%.

As shown in column 6, however, the tax changes in OBRA93 are expected to reverse this trend, as progressive tax changes actually play a countervailing role against increasing inequality. In fact, tax changes fully account for the 0.8 percentage-point income share gain (after-tax) expected to go from the top fifth to the bottom four-fifths of families.

The full extent of the OBRA93 tax changes on expected tax rates and liabilities is shown in **Table 2.6** (which uses 1994 income levels). Unlike the above tables, this table shows the impact of OBRA93 once it is fully phased in (by 1998). The progressivity of the tax changes is evidenced by the decrease of rates and liabilities at the bottom of the income scale and the increase at the top. The poorest 20% of families are projected to pay 28.2% less in taxes under a fully phased-in OBRA93 than they would have in the absence of the change in tax law. Conversely, the liability of the most wealthy taxpayers rises by 18.5%, or $29,417 (1994 dollars). On average, the bottom 80% of families pays slightly less taxes as a result of the change (-0.1%), while the top fifth pays 6.5% more.

In summary, the vast majority of the growth in income inequality is attributable to shifts in pre-tax income that occurred before taxation, although the federal tax system exacerbated this trend toward greater inequality between 1977 and 1989. Changes in the tax system since 1989, particularly OBRA93, are expected to partly reverse this long-term trend toward more regressive taxation. However, as we show below, given their vast income growth and the failure of even OBRA93 to tax them at past rates, the richest families continue to enjoy a lower federal tax liability than they had in 1977.

TABLE 2.6
Effect of OBRA93*
(1994 Dollars)

	Effective Rates			Liabilities		
Income Group	Pre	After	Point Change	Pre	After	Percent Change
Bottom Four-Fifths	15.9%	15.5%	-0.4	$5,252	$5,246	-0.1%
First	7.0	5.0	-2.0	589	423	-28.2
Second	15.0	14.9	-0.1	3,119	3,084	-1.1
Third	19.3	19.5	0.2	6,498	6,562	1.0
Fourth	22.1	22.3	0.2	10,800	10,910	1.0
Top Fifth	26.2%	27.9%	1.7	$29,203	$31,087	6.5%
81-90%	24.6	24.9	0.3	16,757	16,996	1.4
91-95%	25.9	26.3	0.4	22,859	23,247	1.7
96-99%	26.8	27.7	0.9	36,188	37,365	3.3
Top 1%	28.0	33.2	5.2	158,719	188,136	18.5
All	22.8%	23.7%	0.9	$10,107	$10,489	3.8%

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* Federal taxes only.

Source: Authors' analysis of CBO projections. This table projects 1994 income levels based on 1995 tax law (i.e., OBRA93 fully phased in).

The Diminished Progressivity of Federal Tax Rates

Even while most of the income shifting between 1977 and 1989 occurred before taxes, regressive changes in federal taxes contributed to the increased inequality of after-tax family incomes. **Table 2.7** and **Figure 2A** present the effective federal tax rates (i.e., the ratio of taxes paid to pre-tax income) by family income group. The overall effective tax rate changed little between 1977 and 1989, from 22.8% to 22.7%, and is expected to grow by 1.1 percentage points in the 1989-95 period. The tax rates on different income groups, however, have shifted significantly.

For example, between 1977 and 1989, the rate on the top percentile fell from 35.6% to 26.8%, while the effective rates on the bottom 95% of families changed little. Between 1989 and 1995, however, fairly dramatic progressive changes are expected, with the rate on the top 1% growing by 6.0 percentage points and the rate on the poorest fifth falling by 3.4 points, again due to the expanded EITC.

TABLE 2.7
Effective Federal Tax Rates, 1977-95(p)*

						Change in Tax Rates	
Income Group	1977	1980	1985	1989	1995(p)	1977-89	1989-95(p)
Bottom Four-Fifths	16.3%	16.5%	16.7%	16.6%	15.9%	0.3	-0.7
First	9.3	8.1	10.3	9.3	5.9	0.0	-3.4
Second	15.4	15.6	15.7	15.6	15.3	0.2	-0.3
Third	19.5	19.8	19.1	19.3	19.6	-0.2	0.3
Fourth	21.9	22.9	21.7	22.0	22.5	0.1	0.5
Top Fifth	27.3%	27.5%	24.2%	25.6%	27.9%	-1.7	2.3
81-90%	23.9	25.2	23.5	24.1	25.1	0.2	1.0
91-95%	25.3	26.4	24.3	25.6	26.4	0.3	0.8
96-99%	26.9	28.0	24.3	26.2	27.7	-0.7	1.5
Top 1%	35.6	31.8	24.9	26.8	32.8	-8.8	6.0
All	22.8%	23.3%	21.8%	22.7%	23.8%	-0.1	1.1

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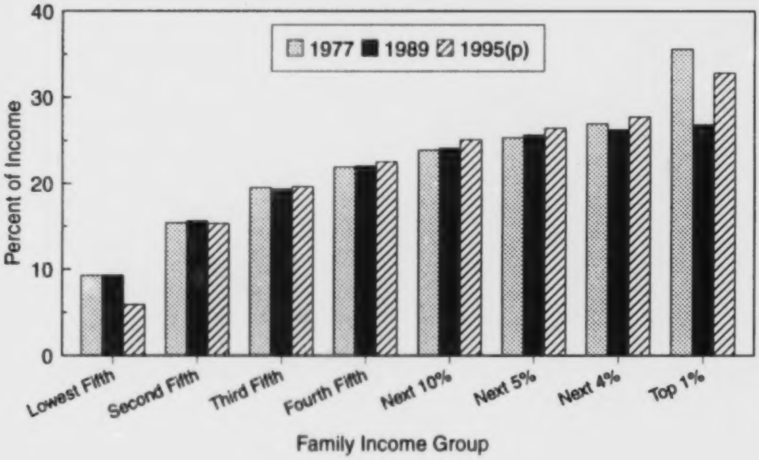
* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

Figure 2A
Federal Tax Burden, 1977-95(p)*



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* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

What Federal Tax Changes Mean in Real Dollars

The effect of any change in a group's tax rate on the group's actual, after-tax income depends on both the size of the change in the tax rate and on the group's level of income. **Table 2.8** shows the average projected pretax family income in 1995 for each income group (column 1, in constant 1993 dollars). Columns 2 through 5 show the changes in the average amount of taxes paid by each income group due to federal tax changes enacted in different periods between 1977 and 1995, holding incomes constant at their 1995 levels. The final column shows the cumulative effect of changes in the tax code between 1977 and 1995 on 1995 federal tax payments.

The table shows that shifts in federal tax policy in the early 1980s were highly regressive, cutting the taxes of the top fifth by $3,611 while raising the liability of the bottom fifth by $185. Since 1985, the tax system has been moving to reverse these regressive changes. The tax bill of the top 1% increased by $7,277 in the late 1980s and is expected to increase sharply, by

TABLE 2.8
Effect of Federal Tax Changes on Family Tax Payments, 1977-95(p)*
(1993 Dollars)

Adjusted Family Income Group	Average 1995(p) Income Before Federal Taxes	The Effect of Federal Tax Changes, 1977-95(p), on the Amount of Tax Payments, Assuming 1995(p) Income Levels				Total	Percent Difference, 1977 and 1995 Tax Payments (at 1995 Income Levels)
		1977-80	1980-85	1985-89	1989-95(p)	1977-95(p)	
Bottom Four-Fifths	$27,363	$55	$55	$-27	$-198	$-116	-2.6
First	8,391	-101	185	-84	-285	-285	-36.6
Second	20,140	40	20	-20	-60	-20	-0.6
Third	32,681	98	-229	65	98	33	0.5
Fourth	47,913	479	-575	144	240	287	2.7
Top Fifth	109,424	219	-3,611	1,532	2,517	657	2.2
81-90%	65,900	857	-1,120	395	659	791	5.0
91-95%	87,711	965	-1,842	1,140	702	965	4.3
96-99%	132,036	1,452	-4,885	2,509	1,981	1,056	3.0
Top 1%	559,795	-21,272	-38,626	7,277	36,946	-15,674	-7.9
All	44,173	221	-663	398	486	442	4.4

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* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

$36,946, between 1989 and 1995. It is clear, however, that the effective rate on the top 1% is not expected to return to its 1977 level by 1995: the wealthiest families can still expect to pay 7.9% less in taxes (-$15,674) in 1995 than would have been the case under the 1977 system. This figure incorporates the countervailing effects of large tax cuts in the late 1970s (-$21,272) and early 1980s (-$38,626) and the large increases noted above.

The poorest families gained income from tax changes in the late 1980s and early 1990s. (These changes include both the Tax Reform Act of 1986 and OBRA93.) By the end of the period, tax changes led to a $285 cut in their tax bill, or a 36.6% reduction over their liability under 1977 rates. Federal tax changes basically evened out for families in the second and third income groups, while families in the top two income groups (except the top 1%) end up with a higher liability, given expected changes.

The Causes of Changes in the Federal Tax Burden

To show the source of the progressive and regressive changes in the federal tax system, **Table 2.9** decomposes the federal effective rates into their components: the personal income tax, payroll taxes, the corporate income tax, and the excise tax. Personal and corporate income taxes are progressive; the effective rates go up consistently as income rises. Excise and payroll tax rates are regressive, but, as regards the latter, the distribution of Social Security benefits may be a mitigating factor, as discussed below.

Since 1977, the overall payroll tax rate has risen from 6.5% to 9.1% (Table 2.9). While the payroll tax has risen for all groups, the bottom 99% have borne the brunt of increased payroll taxes; taxation of the top 1% grew the least. This is partly because the rich earn much of their income from their investments (Chapter 1), which are not subject to payroll taxes, and partly because payroll taxes are capped: in 1993 they applied only to the first $57,600 (1993 dollars) of earnings. The payroll tax is by far the largest federal tax paid by the bottom 80% of the distribution in 1995. As we discuss below, the growth of payroll taxes has led to increased inequality.

In this analysis, the tax incidence (i.e., who ultimately bears the burden

TABLE 2.9
Effective Tax Rates for Selected Federal Taxes, 1977-95(p)*

	Personal Income Tax		Payroll Tax		Corporate Income Tax		Excise Tax	
Income Group	1977	1995(p)	1977	1995(p)	1977	1995(p)	1977	1995(p)
Bottom Four-Fifths	4.7%	3.0%	7.1%	9.4%	2.7%	1.7%	1.9%	1.8%
First	-0.6	-5.5	5.1	7.4	1.9	1.1	2.9	2.9
Second	3.4	2.3	7.5	9.6	2.7	1.6	1.8	1.8
Third	6.9	6.2	8.1	10.1	3.0	1.9	1.5	1.4
Fourth	9.6	8.8	7.8	10.6	3.2	2.0	1.3	1.1
Top Fifth	16.1	16.2	5.3	8.0	5.0	3.0	0.9	0.7
81-90%	12.0	11.3	7.4	10.7	3.4	2.1	1.1	1.0
91-95%	13.9	13.1	6.5	10.1	3.9	2.3	1.0	0.8
96-99%	16.6	16.2	4.4	8.0	5.1	3.0	0.8	0.5
Top 1%	25.2	24.9	1.3	2.8	8.8	4.8	0.3	0.3
All	11.1	11.2	6.5	9.1	3.9	2.5	1.3	1.1

* (p) indicates CBO projections of 1995 income level under 1995 tax law.

Source: Authors' analysis of CBO data.

of the tax) of the payroll tax falls totally on employees: the employer portion is shifted to employees in the form of lower wages. While this is a common and valid assumption of payroll tax incidence, it does not speak to the total redistributive effects of the Social Security system, which incorporate both the taxation and benefit structure. Since retirement benefits are redistributed in a progressive manner (less wealthy retirees receive more benefits than they contributed over their lifetime, while the most wealthy receive fewer benefits than they put in), the benefit structure counteracts the regressive nature of the tax evident in Table 2.9.

However, the age structure of the population is changing so that the number of beneficiaries is rising faster than the number of workers. This demographic phenomenon will strain the social insurance system's ability to maintain its progressive benefit structure. Without this redistributive component, the burden of the tax falls on wage earners in the present, and the regressive nature of the tax is not mitigated for future generations. Therefore, the rise in payroll taxes is considered a regressive change.

Corporate income taxes, which have a progressive structure, have declined considerably. For example, the average effective rate for the richest fifth of families falls from 5.0% in 1977 to 3.0% in 1995 (Table 2.9). Since corporations are owned by households through shares of stock, households also bear the burden of corporate taxes. In this analysis, it is assumed that half of corporate taxes are borne by stockholders in the form of lower dividends and slower stock appreciation, and half are paid by consumers in the form of higher prices.

Excise taxes have fallen slightly since 1977 while maintaining their regressive structure. These taxes—levied on alcohol, gasoline, cigarettes—are the most regressive federal taxes (Table 2.9). In 1995, the poorest families pay 2.9% of their income in excise taxes, while the richest fifth, which spend smaller proportions of their incomes on goods subject to excise taxes, pay 0.3%.

Table 2.10 and **Figure 2B** look at changes in the effective tax rates between 1977 and 1995. After a regressive trend in 1977-89 (see Figure 2B), the personal income tax is expected to become slightly more progressive over the full period (once again, due to OBRA93). Although the average personal income tax for the richest families (the top 1%) is projected to fall 0.3 percentage points over the full period, the effective rate for the bottom fifth is expected to fall by 4.9 percentage points. Overall, these changes lead to a slightly higher burden for the top fifth (0.1 points) and a lower burden (1.7 points) for the bottom four-fifths. (Note that while rates fall for each group within the top fifth, the overall rate grows slightly. This result was gener-

TABLE 2.10
Changes in Effective Federal Taxes, 1977-95(p)*

	Point Change, 1977-95(p)				
Income Group	Personal Income Tax	Payroll Tax	Corporate Income Tax	Excise Tax	Total
Bottom Four-Fifths	-1.7	2.4	-1.0	-0.1	-0.4
First	-4.9	2.3	-0.8	0.0	-3.4
Second	-1.1	2.1	-1.1	0.0	-0.1
Third	-0.7	2.0	-1.1	-0.1	0.1
Fourth	-0.8	2.8	-1.2	-0.2	0.6
Top Fifth	0.1	2.7	-2.0	-0.2	0.6
81-90%	-0.7	3.3	-1.3	-0.1	1.2
91-95%	-0.8	3.6	-1.6	-0.2	1.1
96-99%	-0.4	3.6	-2.1	-0.3	0.8
Top 1%	-0.3	1.5	-4.0	0.0	-2.8
All	0.1	2.6	-1.4	-0.2	1.0

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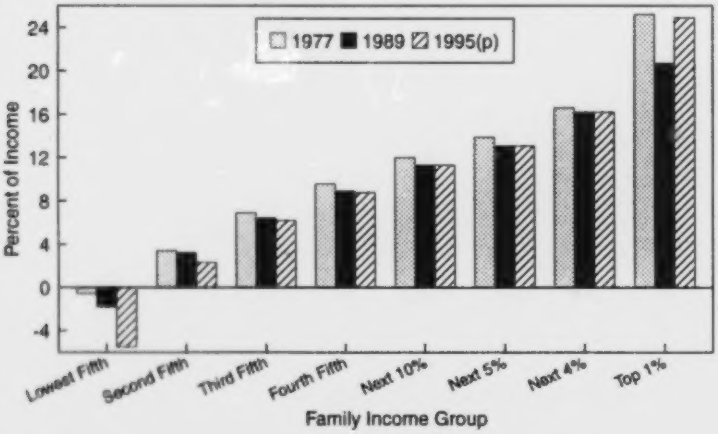
* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

Figure 2B
Personal Income Tax Burden, 1977-95(p)*



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* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

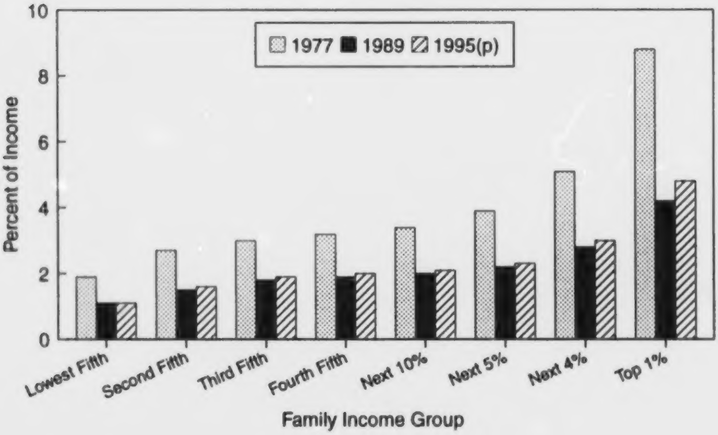
ated by combining small within-group rate changes and a large upward shift in pre-tax income shares.)

Except for the bottom 20%, the reductions in income taxation are more than offset by higher payroll taxes. For instance, the effective income tax rate for the middle fifth falls by 0.7 percentage points between 1977 and 1995, but the payroll tax grows by 2.0 percentage points.

Between 1977 and 1995, federal corporate taxes are projected to decline by 1.4 percentage points (Table 2.10 and **Figure 2C**). According to the burden assumptions used here, corporate taxes are progressive; thus, lower corporate taxes will benefit the rich more than other groups. In particular, the top 1% of families benefit from a corporate tax reduction of 4.0 percentage points. Thus, regressive corporate tax changes more than explain the expected 2.8% decrease in the total burden of the rich.

Federal excise taxes remain virtually unchanged for the bottom 60% of families (Table 2.10 and **Figure 2D**). The 0.2 percentage-point decline, from 1.3% of family incomes in 1977 to 1.1% in 1995, is driven by slight declines for wealthier families (those between the 60th and 99th percentile). Thus, the regressivity of this aspect of the federal tax burden is projected to increase.

Figure 2C
Corporate Tax Burden, 1977-95(p)*



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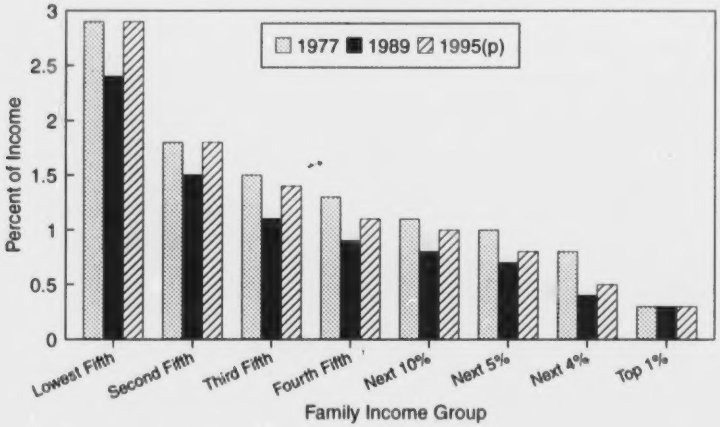
* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Author's analysis of CBO data.

Figure 2D
Excise Tax Burden, 1977-95(p)*



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* (p) indicates CBO projections of 1995 income levels under 1995 tax law.

Source: Authors' analysis of CBO data.

Changes in Corporate Taxation: The Shift to Untaxed Profits

Although corporate rates have dropped, this decline does not necessarily lead to lower corporate tax liability, since the lower rates could be applied to greater absolute profits (i.e., an expanded tax base). In fact, this was a goal of the 1986 tax reform. However, contrary to the goal of the reform, corporate tax revenue *did* decline through the period because of the growth of *untaxed* corporate income, that is, income from which certain expenses, like interest payments, have been deducted.

Between 1979 and 1993, corporate profits as a percent of GDP fell slightly, from 7.4% to 7.1% (**Table 2.11**), yet taxed profits fell significantly over this same period, from 7.9% to 4.6%. This phenomenon of relatively flat total profits and falling taxed profits is due to the rise in untaxed corporate profits, which rose from -0.5% of GDP in 1979 to 2.3% in 1993 (Table 2.11 and **Figure 2E**). Over the full period (1967-93), corporate taxed profits have been cut significantly, from 8.3% of GDP to 4.6%.

There are two main reasons for the shift from taxed to untaxed profits: increased indebtedness (along with higher real interest rates) and a more

TABLE 2.11
Taxed and Untaxed Corporate Profits, 1977-93
(Nonfinancial Corporations Only)

	As Percent of GDP in:					
	1967	1973	1979	1986	1989	1993
Pre-Tax Profits						
Taxed and Untaxed	9.9%	7.9%	7.4%	7.1%	7.7%	6.9%
Taxed profits	8.3	7.3	7.9	3.5	4.4	4.6
Untaxed profits	1.6	0.6	-0.5	3.6	3.2	2.3
Net Interest	1.1	1.7	1.8	2.3	2.8	2.0
Depreciation Allowances	0.7	0.4	-0.6	1.1	0.8	0.4
Other Deductions	-0.2	-1.5	-1.7	0.2	-0.3	-0.1
Profits After Taxes	6.5	4.9	4.6	5.3	5.8	5.0
Taxable Profits Only	4.9	4.3	5.1	1.7	2.5	2.7
Corporate Profits Taxes*	3.4	3.0	2.8	1.8	1.9	1.8

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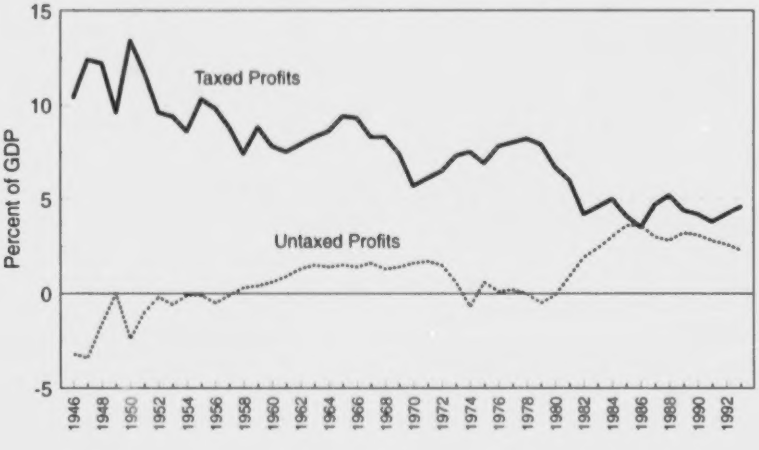
* Federal, state, and local combined.

Source: Authors' analysis of BEA data.

Figure 2E
Taxed and Untaxed Corporate Profits as a Percent of GDP, 1946-93



Source: Authors' analysis of BEA data.

favorable tax treatment of depreciation. Since the late 1970s, corporations have increasingly raised money by selling bonds (i.e., they have borrowed) rather than by selling stocks. As a result, corporations have been paying out more and more of their gross profits as interest payments (on bonds) rather than as dividend payments (on stocks). This is reflected in Table 2.11 in the steady increase in net interest payments between 1967 and 1989, from 1.1% of GDP in 1967 to 2.8% of GDP in 1989. This trend reversed between 1989 and 1993, likely due to falling interest rates and a shift toward equity financing.

Since interest payments are treated more favorably than dividends by the federal tax system (they are considered an expense for nonfinancial corporations and deducted from taxable profits), and since interest rates were high relative to inflation in the 1980s, the corporate emphasis on debt over equity has lowered the corporate tax burden. Corporate liability is lowered, then, as corporations deduct interest payments from their tax base.

The second reason for lower corporate taxes is the federal tax system's relatively favorable treatment of capital depreciation. With the introduction of the Accelerated Cost Recovery System in 1981, corporations were able to take tax deductions on purchases of new equipment and other investments sooner. Since this accelerated depreciation allowed them to defer some of their taxes for several years, it amounted to an interest-free loan. This tax break grew over the mid-1980s, when untaxed profits due to depreciation allowances went from -0.6% of GDP in 1979 to 1.1% in 1986 (Table 2.11). Since 1986, Congress has taken back part of this tax cut, reducing untaxed profits in this category to 0.4% of GDP in 1993.

These shifts have led to a growing gap between actual and taxable corporate profits, which has in turn led to a sharp decrease in corporate profits taxes (Table 2.11). As a share of GDP, taxes on corporate profits have been cut in half over the period, from 3.4% in 1967 to 1.8% in 1993.

Table 2.12 shows the results of these changes on corporate taxes as a share of profits. Since 1977, corporate taxes have declined from 36.8% of actual profits (defined as the sum of taxable profits, net interest, and the difference between allowable depreciation and true depreciation) to 25.8% in 1993, while generally *increasing* as a percent of taxed profits. Moreover, the 1993 effective tax rate, 25.8%, is about half of what corporate taxes were in 1947 (Table 2.12 and **Figure 2F**). The beneficiaries of this fall in corporate tax liability relative to true economic profits are by and large those who own and lend to corporations: the wealthy.

TABLE 2.12
Corporate Profits Tax Rates, 1947-93
(Nonfinancial Corporations Only)

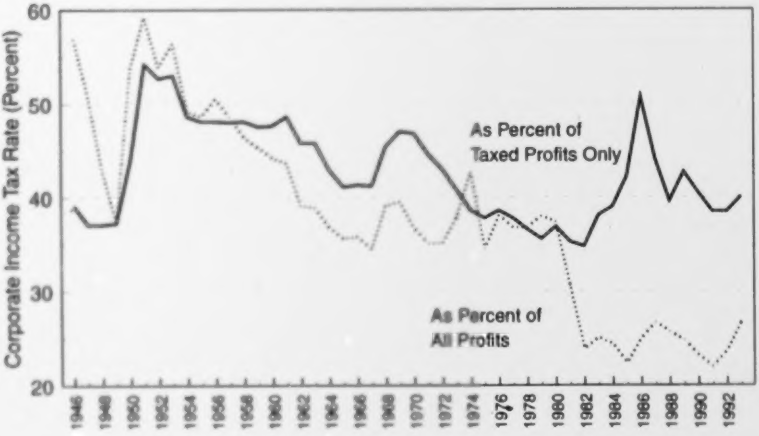
	Corporate Taxes* as a Percent of	
	Taxable Profits	Actual Profits
1947	37.1%	50.9%
1957	48.0	48.6
1967	41.2	34.5
1977	37.8	36.8
1980	36.9	37.4
1985	42.2	22.4
1989	42.7	24.8
1991	38.5	22.0
1992	38.5	23.7
1993	40.1	25.8

---

* Federal, state, and local combined.

Source: Authors' analysis of BEA data.

Figure 2F
Corporate Profit Taxes, 1946-93



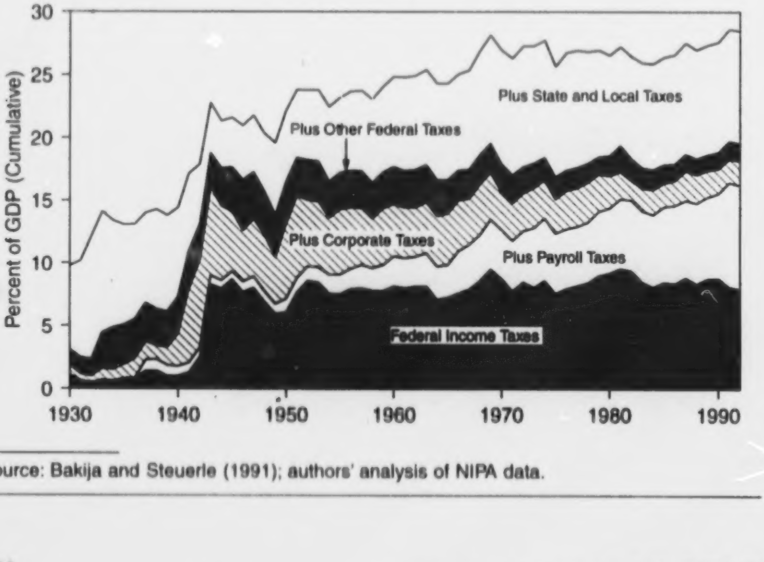
Source: Authors' analysis of BEA data.

The Shift to State and Local Taxes

As noted in the beginning of this chapter, the proportion of total tax receipts contributed by state and local taxpayers has grown over time, relative to the federal tax burden (see Table 2.1). **Figure 2G**, total tax receipts as a percentage of GDP, by different components, makes this point graphically. The figure shows that, starting in the post-war period, the growth of tax receipts has been led by state and local taxes (as well as federal payroll taxes, which were discussed above), while the federal income tax shows a relatively flat trend. Since state and local taxes are less progressive than federal taxes, the distribution of the overall tax burden is considerably, and increasingly, less progressive than the distribution of federal taxes alone.

State and local governments rely for their revenues predominantly on regressive taxes, such as sales taxes and property taxes (here regressivity is sensitive to incidence assumptions, discussed below), and on nontax sources of income such as fines and fees (regressive when they apply to consumption). **Table 2.13** gives the effective rates for state and local taxes by family income group for a family of four (the findings are for 1991, the most recent data). The regressive structure of the state and local burden is shown in the

Figure 2G
Total Tax Receipts as a Percent of GDP, 1930-93



Source: Bakija and Steuerle (1991); authors' analysis of NIPA data.

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TABLE 2.13
Total State and Local Taxes in 1991 (Effective Rates) as Shares of Income for Families of Four

Income Group	Personal Income Tax	Corporate Income Tax	Property Tax	Sales Tax	Excise Tax	Total Tax	Total After Federal Deductions
Bottom Four-Fifths							
First	0.7%	0.1%	5.4%	5.7%	1.9%	13.8%	13.8%
Second	2.0	0.1	3.7	4.0	1.1	10.9	10.7
Third	2.6	0.1	3.2	3.3	0.8	10.0	9.5
Fourth	3.0	0.1	2.9	2.9	0.7	9.5	8.4
Top Fifth							
81-95%	3.5	0.1	2.7	2.4	0.5	9.2	7.7
96-99%	4.1	0.2	2.3	1.8	0.3	8.7	6.9
Top 1%	4.6	0.4	1.3	1.2	0.1	7.6	6.0

Source: McIntyre et al. (1991).

table's final column: the proportion of income that a family of four paid in state and local taxes fell as its income increased.

However, as with federal income and corporate taxes (Table 2.8), state and local income and corporate taxes are progressive. Table 2.13 shows that the average family at the bottom of the income distribution paid 0.7% of its income in state and local personal income taxes, while the wealthiest 1% of families paid 4.6%. The state corporate tax is flat throughout most of the distribution, then slightly progressive at the top.

Conversely, property, sales, and excise taxes are regressive. In the case of sales and excise taxes, their regressivity results from the fact that the percentage of income consumed falls as income increases. This burden was exacerbated in 1986 when federal deductibility of state sales taxes was removed. In 1991, the poorest families in the average state paid 5.7% of their income in sales taxes and 1.9% in excise taxes. This proportion fell as income increased, until the wealthiest families paid a combined 1.3%.

The calculation of property tax incidence is particularly sensitive to the assumptions upon which the analysis is based. To the degree that owners of land and structures are able to shift the property tax burden onto tenants, the tax is regressive. Conversely, since ownership of land and capital generally rises with income, the property tax is progressive to the extent that those owners are unable to shift the tax forward onto property users.

The property tax column in Table 2.13 assumes that homeowners bear the full burden of their property taxes. For residential renters, half of the property tax is allocated to renters and half to owners. These two assumptions lead to the regressive structure reflected in the table, since poorer homeowners and renters devote a larger proportion of income to housing than the wealthy. The property tax liability on business is assumed to be that part of state property tax revenue *not* accounted for by residential renters and homeowners.

The shift to state and local governments' revenues as seen in Figure 2G is of particular concern from a distributional perspective, since state and local taxes are more regressive than federal taxes. In spite of increases in social insurance taxes, in 1993 52.2% of federal revenues still came from progressive taxes (personal, corporate, and estate), while only 21.6% of state/local revenues were raised progressively (**Table 2.14** and **Figures 2H** and **2I**). (Payroll taxes at the state level are not strictly comparable to those at the federal level, since these state contributions are mostly for pension funds for state and local employees. As such, they are more like personal assets than federal payroll taxes, which are distributed under a pay-as-you-go system. In this regard, they are less regressive than federal payroll taxes.) Over three-quarters of state/local revenues are raised from regressive taxes, compared with less than half (46.3%) of federal revenues.

TABLE 2.14
Federal vs. State & Local Taxes, 1993, as a Percent of Revenue at Each Level

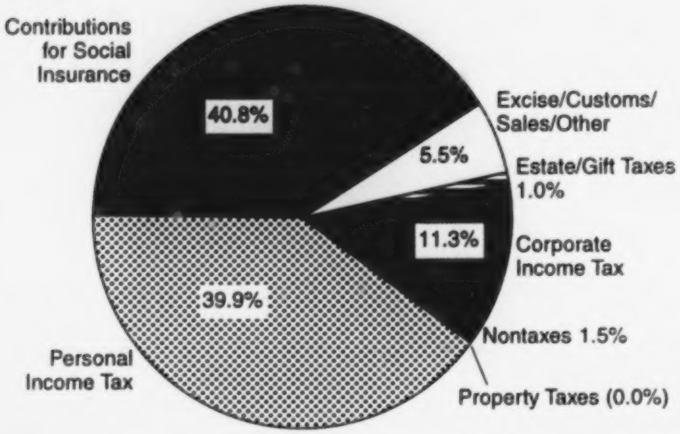
Type of Tax	Federal	State & Local
Progressive	52.2%	21.6%
Personal Income Tax	39.9	17.2
Corporate Income Tax	11.3	4.4
Estate/Gift Taxes	1.0	0.0
Regressive	46.3	75.6
Excise/Customs/Sales/Other*	5.5	39.3
Contributions for Social Insurance	40.8	26.6
Property	0.0	9.6
*Nontaxes***	1.5	2.8
Total	100.0	100.0

* Other taxes include vehicle licenses, severance taxes, etc.

** Fines, certain fees, rents, royalties, tuition, hospital fees, etc.

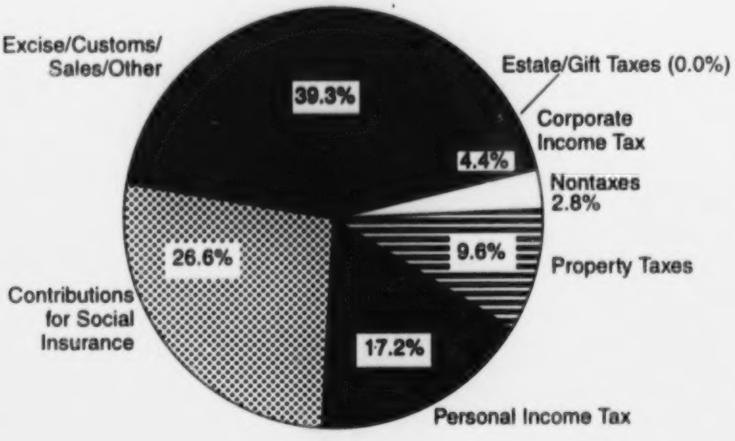
Source: Authors' analysis of NIPA data.

Figure 2H
Federal Revenue Sources, 1993



Source: Authors' analysis of NIPA data.

Figure 2I
State and Local Revenue Sources, 1993



Source: Authors' analysis of NIPA data.

Table 2.15 shows the percent of GDP taxed by progressive and regressive taxes, together with nontax revenues, at peaks of business cycles since 1959. While progressive taxes varied slightly since 1959, regressive taxes have increased their share of GDP substantially—from 12.6% to 17.5% in 1993—as the result of increases at both the federal and state/local levels. Nontax revenues have risen but remain low, at only 0.6% of GDP in 1993.

TABLE 2.15
The Composition of Taxes, 1959-93, as a Percent of GDP

Type of Tax	1959	1967	1973	1979	1989	1993
*Progressive**	13.3%	13.0%	13.5%	14.3%	13.4%	12.8%
Federal	12.6	11.9	11.7	12.2	11.0	10.4
State and Local	0.7	1.1	1.8	2.1	2.4	2.4
*Regressive***	12.6	14.5	16.5	15.7	16.9	17.5
Federal	5.6	6.6	7.8	7.9	9.0	9.2
State and Local	6.9	7.9	8.8	7.8	8.4	8.3
*Nontaxes****	0.2	0.8	1.1	1.3	0.5	0.6
Federal	0.1	0.2	0.1	0.2	0.2	0.3
State and Local	0.1	0.7	1.0	1.1	0.3	0.3

* Personal and corporate income taxes; estate and gift taxes.
** Customs, excise, sales, and other taxes; property taxes; contributions for social insurance. Other taxes include vehicle licenses, severance taxes, etc.
*** Fines, certain fees, rents, royalties, tuition, hospital fees, etc.

Source: Authors' analysis of NIPA data.

Conclusion

The growth of income inequality documented in Chapter 1 has not been ameliorated by either federal or state taxes. In fact, between 1977 and 1989, the tax system shifted to the advantage of the wealthy, who received large tax cuts at the expense of the poor and middle class. To some extent, tax changes since 1989 reversed this trend, particularly regarding income taxes. However, the tax system has still done little to reverse the steep increase in income inequality, and it generates most revenues from regressive sources. The long-term rise in untaxed corporate profits and a shift to greater dependence on regressive state and local taxes have contributed to the increase in regressivity and after-tax income inequality.

Chapter 3

Wages: Working Longer for Less

Wage trends have been the primary determinant of the slow growth in income and the greater income inequality experienced in recent years. This should not be surprising, since wages and salaries make up roughly three-fourths of total family income and an even higher percentage among the broad middle class. This chapter examines what happened to the wage structure and why wages continue to deteriorate for most workers.

From 1979 to 1993, in terms of either wages or total compensation (both wages and benefits), the real hourly pay of most workers was severely eroded. The groups experiencing the greatest fall in wages include the three-fourths of the workforce with less than a college degree, the bottom 80% of men, low-wage women workers, younger workers, and blue-collar workers. This widespread wage erosion has meant a continuing growth in the proportion of the workforce earning less than poverty-level wages and a shrinkage in the share of workers, especially men, who earn mid-level wages.

The most severe wage reductions, however, have been for entry-level jobs for young, high school graduates, a group comprising two-thirds to three-fourths of all young workers. In 1993, the wages paid to young male and female high school graduates were, respectively, 30% and 18% less than the wages their counterparts received in 1979. Similarly, the wages of entry-level college graduates fell 8% among men (but rose 4% among women).

Starting in 1987 and continuing through the current recovery, however, wages began falling for groups such as white-collar and college-educated men that had previously escaped the downward pressure on wages. The decline in wages for these groups is the consequence of the end of the white-collar employment boom of the 1980s and continued corporate restructuring. Meanwhile, the wages of those who lost the most in the 1980s (high school graduates, blue-collar workers, and men) have continued to fall. By the end of the 1980s, the only educational group seemingly exempt from falling real wages was the 8% of the workforce with advanced or professional degrees. These adverse wage trends persisted through the first two years of the current recovery: so far, the wage trends of the 1990s look very much like those of the late 1980s.

What is driving these wage developments? Not poor productivity, since the nearly 1% annual productivity growth since 1979 was better than that of the 1970s and, more importantly, since positive productivity cannot explain falling real wages. Growth in benefits, particularly health benefits, is not responsible, since the trend in benefits (pensions and health and payroll taxes) has paralleled wage trends, including that of growing inequality.

As with most economic outcomes, economists cannot fully explain the recent growth of wage inequality and the deterioration of wages among non-college-educated workers. However, a number of factors, in total, seem to account for most of the shifts in the wage structure. Significant institutional shifts, such as a severe drop in the value of the minimum wage and deunionization, explain one-third of the growing wage inequality among prime-age workers, and the expansion of low-wage service-sector employment has perhaps contributed 20% to 30%. Similarly, the increasing globalization of the economy—immigration and trade—has created more wage inequality, explaining, in our judgment, from 15% to 25% of the total. Together, the combined effects of industry shifts and globalization (which overlap and are not cumulative) can conservatively account for 25% to 40% of the growth of wage inequality. Other not yet quantified factors that may be important are the growth of small business and contingent work (temporary and part-time arrangements) and a weakened effect of unions on nonunion wage patterns.

We reject the notion that the growth of wage inequality reflects primarily a technology-driven increase in demand for "educated" or "skilled" workers. There is evidence that the overall impact of technology on the wage and employment structure was no greater in the 1980s than in the 1970s. Moreover, skill demand and technology have little relationship to the growth of within-group wage inequality (i.e., inequality among workers with similar levels of experience and education), which was responsible for half of the overall growth of wage inequality in the 1980s. Technology has been and continues to be an important force, but there was no "technology shock" in the 1980s and no ensuing demand for "skill" that could not be satisfied by the continuing expansion of the educational attainment of the workforce.

It is also difficult to see a "bidding up" of the wages of "more skilled" and "more educated" workers when the wages of many college graduates and white-collar workers, especially men, have fallen each year since 1987, including the years of the recent recovery. Plus, the wage differential between college graduates and those with less education has not grown since 1990. This suggests that even in relative terms the wages of college graduates are no longer being "bid up." Moreover, it is misleading to label as "less educated" or "less skilled" a group comprising three-fourths of the workforce (and whose educational attainment ranges from high school dropouts to holders of associate degrees from two-year colleges).

What does the future hold? The persistence of growing wage inequality in the first four years of the 1990s and the expected continuation of the forces that led to the recent growth of inequality suggest that wage inequality will continue to grow. Offsetting trends, such as a rapid expansion of college graduates in the workforce, do not seem to be materializing. The consequence will be male wages (at the median) continuing to fall 1% annually, modest growth of 0.5% for female wages (at the median), and entry-level wages of high school graduates continuing to plummet. The only optimistic scenario is a pickup in productivity growth, as anticipated by a small minority of economists. Under this scenario the male median wage would neither fall nor grow, and women's wages would grow at 1.5% yearly. It is unlikely that entry-level wages for high school graduates will improve over the next 10 years.

More Hours and Stagnant Wages

To understand changes in wage trends it is important to clearly distinguish between trends in annual, weekly, and hourly wages. Trends in annual wages, for instance, are driven by changes in both hourly wages and the amount of time spent working (weeks worked per year and hours worked per week). Likewise, weekly wage trends reflect changes in hourly pay and weekly hours. In this chapter we focus on the hourly pay levels of the workforce and its subgroups. We do this to be able to distinguish changes in earnings resulting from more (or less) work rather than more (or less) pay. Also, the hourly wage can be said to represent the "true" price of labor (exclusive of benefits, which we analyze separately). Chapter 4 addresses employment, unemployment, underemployment, and other issues related to changes in worktime and opportunities.

Table 3.1 illustrates the importance of distinguishing between annual, weekly, and hourly wage trends. The annual wage and salary of the average worker in inflation-adjusted terms grew 0.7% annually between 1979 and 1989. However, much of this growth was due to longer working hours. For instance, the average worker worked 1,765 hours in 1989, 82 more—the rough equivalent of two full-time weeks—than the 1,683 hours worked in 1979. Correspondingly, that 0.7% yearly growth in annual wages was driven by a 0.5% yearly growth in annual hours and a minimal 0.2% yearly growth in real hourly wages. Any wage analysis that focuses on annual wages would miss the fact that most of the growth from 1979 to 1989 was due to more work rather than higher hourly wages.

The wage and hour trends in the 1980s—more hours and stagnant hourly wages—represent a continuation of the trends in the 1973-79 period, when hourly wages were essentially flat (falling 0.1% annually) and weekly hours

TABLE 3.1
Trends in Average Wages and Average Hours, 1967-93
(1993 Dollars)

		Wage Levels			Hours Worked		
Year	Productivity Per Hour (1982=100)	Annual Wages	Weekly Wages	Hourly Wages	Annual Hours	Weeks Per Year	Hours Per Week
1967	85.2	$ 18,418	$ 425.19	$ 10.87	1,696	43.3	39.1
1973	96.4	21,423	495.89	12.93	1,659	43.2	38.4
1979	99.9	21,582	494.88	12.82	1,683	43.6	38.6
1983	102.5	20,865	478.22	12.61	1,655	43.6	37.9
1989	108.6	23,079	510.49	13.08	1,765	45.2	39.0
1992	113.7	22,370	495.35	12.72	1,759	45.2	39.0
Change	*(Annual Growth Rates)*						
1967-73	2.1%	2.5%	2.6%	2.9%	-0.4%	-0.1%	-0.3%
1973-79	0.6	0.1	0.0	-0.1	0.2	0.2	0.1
1983-89	1.0	1.7	1.1	1.1	0.5	0.6	0.5
1979-89	0.8	0.7	0.3	0.2	0.5	0.4	0.1
1989-92	1.5	-1.0	-1.0	-0.9	-0.1	0.0	-0.1

Source: Authors' analysis.

For detailed information on table sources, see Table Notes, page 372.

and weeks worked per year were increasing. In contrast, real hourly wages rose 2.9% annually between 1967 and 1973 while annual hours declined 0.4%. Thus, the post-1973 trend of greater work effort coupled with modestly rising or falling wages replaced a trend of strong real annual wage growth based on higher real hourly wages and reduced worktime.

The recessionary period between 1989 and 1992 produced a rapid fall in hourly wages of 0.9% per year, even though work hours in 1992 were comparable to those in 1989 (1,759 versus 1,765).

Because of rising wage inequality, especially since 1979, stagnant wage growth meant that large groups of workers experienced a decline in real wages, with some groups seeing a sizeable wage decline. These trends are presented in detail below.

Productivity growth between recent cyclical peaks has been less than that of the pre-1973 economy (Table 3.1), but these lower numbers are not sufficient to explain the modest growth in real wages from 1979 to 1989. After all, hourly productivity actually *increased* by 0.8% yearly between 1979 and 1989 while real hourly wages grew by only 0.2%. (We examine explanations for recent wage trends below.)

The data in **Table 3.2** provide a more comprehensive portrait of hourly pay trends because they include more up-to-date information and show trends in hourly wages, benefits, and total compensation. Unfortunately, there are no data of this type available between the years of 1977 and 1987, so this analysis deviates from an examination of peak-to-peak trends.

Between 1977 and 1989 there was a 10.5% erosion in hourly wages and a 7.9% drop in hourly compensation. In the recession years 1989 to 1994, hourly wages and compensation continued to fall, by 2.8% and 0.6%, respectively. Since both began falling before the onset of the recession, the recent decline cannot be ascribed to a cyclical weakness in the labor market. In fact, hourly wages and compensation fell faster in the two years before unemployment started rising in 1989. Between 1987 and 1989, hourly wages and compensation fell, respectively, 3.2% and 2.6%, suggesting that the post-1989 erosion of compensation reflects long-term rather than cyclical trends.

The erosion of real hourly wages and compensation since 1977 represents a dramatic reversal of the strong growth of the 1966-77 period. From 1966 to 1972 real wages grew 17.8%, for an annual growth rate of 2.7%. Because health and pension benefits grew by 68.5% in this period, hourly compensation grew even faster than wages. Both wages and benefits grew more slowly between 1972 and 1977, but still a respectable 4.1% and 8.0%.

TABLE 3.2
Changes in Hourly Wages, Benefits, and Compensation, 1966-93
(1993 Dollars)

	Private-Sector Employer Cost Per Hour			
Year*	Wages & Salaries	Health & Pension	Payroll Taxes	Total Compensation
1966	$12.56	$0.65	$0.77	$13.98
1972	14.79	1.10	0.97	16.86
1977	15.40	1.52	1.29	18.20
1987	14.23	1.54	1.45	17.21
1989	13.78	1.49	1.49	16.76
1993	13.52	1.63	1.55	16.70
1994	13.39	1.71	1.56	16.66
Percent Change				
1966-72	17.8%	68.5%	25.2%	20.5%
1972-77	4.1	38.4	33.5	8.0
1977-89	-10.5	-1.7	15.5	-7.9
1989-94	-2.8	14.5	4.7	-0.6

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* Based on available data since peak-year data are not available. Data for 1987 and later years are for March.

Source: Authors' analysis.

Some analysts have presumed that fringe-benefit growth in the 1980s balanced declining wages, thus leaving overall compensation to grow at its historical rate. This reasoning seems plausible, since health care costs have been rising rapidly (see Chapter 7) and since most people assume that fringe benefits make up a large share of total compensation, perhaps as high as 40% to 45%.

In fact, benefits are not as important in the overall compensation package as is commonly believed, nor did benefits increase rapidly in the 1980s. The data in Table 3.2 indicate that over the 1977-89 period, the cost of fringe benefits, measured as employer pension plus health and life insurance costs per hour, did not grow, and they made up less than 9% of the total compensation package in 1989.

Health insurance costs have indeed risen quickly. Apparently, however, the rapid growth of jobs with little or no employer-provided health benefits and the increased shift of employer health care costs onto employees has meant that average fringe-benefit costs did not rise over the 1977-89 period. In fact, they declined modestly (-1.7%).

Part of the confusion about the role of fringe benefits is definitional. In surveys of employers by trade associations and by the Bureau of Labor Statistics, fringe benefits are broadly defined (following standard corporate accounting procedures) to include paid leave (holidays and vacations), supplemental pay (overtime and shift premiums), and payroll taxes (the employer portion of Social Security and unemployment taxes). Under this broad definition, benefits do make up about 28% of total compensation costs. However, wage-related items that are received by workers in their regular paychecks, such as paid leave and supplemental pay, are defined as wages by workers when they report their wages in government surveys.

Thus, although studies of labor-market trends should examine both wage and benefit trends, those that focus on wage trends alone (usually because of a lack of benefit data) are not misleading. That is, taking account of pension and insurance costs (including both health and life insurance), given their small size and slow growth, would not substantively alter the picture emerging from analyses, such as this one, of the government wage data frequently used to track labor-market trends. It should be kept in mind that the erosion of wages is somewhat larger than the erosion of overall compensation. Plus, the years since 1989 have seen a 14.5% expansion of health and pension costs—an increase of $0.22 per hour worked— which partially offset the $0.39 drop in hourly wages. (We examine trends in particular benefits below.)

Note that the data in Table 3.2 show an even larger drop in real hourly wages than did the data in Table 3.1. Since the data in Table 3.2 are drawn from a survey of employers rather than of households, they are probably more accurate.

Low-Paid Occupations Fared Worse

We now turn our attention to how the various segments of the workforce managed during the 1980s and early 1990s. In general, the workers who experienced the greatest fall in real wages were those who initially had lower wages, were without a college degree, were in blue-collar or service occupations, or were in younger age brackets. Since 1987, however, the real wages of white-collar and college-educated workers have also eroded.

The data in **Table 3.3** and **Figure 3A** show wage trends for the 80% of the workforce who are "production and nonsupervisory workers." This cat-

TABLE 3.3
Hourly and Weekly Earnings of Production and Nonsupervisory Workers, 1947-93*
(1993 Dollars)

Year	Average Hourly Earnings	Average Weekly Earnings
1947	$6.75	$272.16
1967	10.67	405.40
1973	12.06	445.10
1979	12.03	429.42
1982	11.61	403.97
1989	11.26	389.50
1991	10.95	375.55
1993	10.83	373.64
Change (Annual Rates of Growth)		
Peak to Peak		
1947-67	2.3%	2.0%
1967-73	2.0	1.6
1973-79	0.0	-0.6
1979-89	-0.7	-1.0
Contractions		
1979-82	-1.2	-2.0
1989-91	-1.4	-1.8
Recovery		
1982-89	-0.4	-0.5
1991-93	-0.5	-0.3

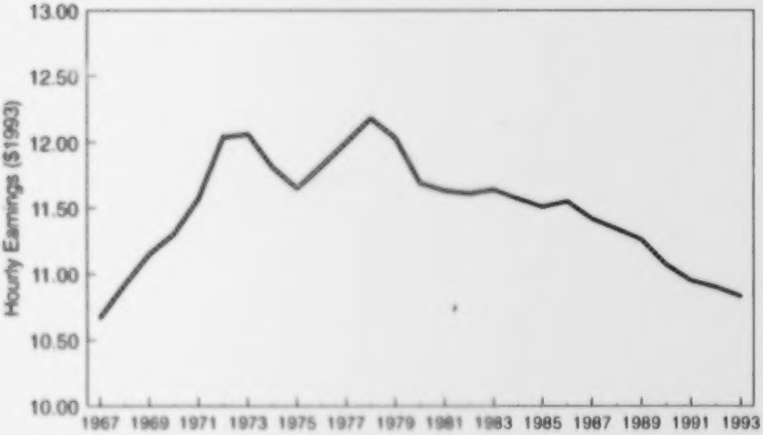
---

* Production and nonsupervisory workers make up more than 80% of wage and salary employment.

Source: Authors' analysis.

egory includes factory workers, construction workers, and a wide variety of service-sector workers ranging from restaurant and clerical workers to nurses and teachers. For all of these workers, average hourly earnings fell $0.77 from 1979 to 1989, a decline of 0.7% each year. In contrast, hourly earnings were flat in the 1973-79 period and grew 2.0% to 2.3% per year from 1947 to 1973.

FIGURE 3A
Real Hourly Earnings of Production and Nonsupervisory Workers, 1967-93



Source: Authors' analysis.

Weekly earnings fell at a rate of 1.0% each year from 1979 until 1989 because of reductions in both weekly hours and hourly earnings. The earnings of production and nonsupervisory workers in 1989 were $389.50 per week (in 1993 dollars), $16 less than in 1967.

The real hourly wage of production and nonsupervisory workers fell 1.4% per year in the 1989-91 downturn and continued to decline 0.5% per year during the recovery from 1991 to 1993.

Table 3.4 presents wage and compensation trends between 1987 and 1994 for the blue- and white-collar workforces. (There are no consistent data available for earlier years.) Blue-collar workers (i.e., craft workers, operatives, and laborers) experienced a severe $1.12 reduction in hourly wages over the 1987-94 period. White-collar (i.e., professional, managerial, technical, sales, and clerical) wages also fell in this period, by $0.50. Total compensation per hour declined for both groups, by $0.72 for blue-collar workers and $0.19 for white collar.

Table 3.5 presents post-1979 wage trends by occupation for men and women using a data source that has wage but no benefit information. The

TABLE 3.4
Changes in Wages and Compensation, 1987-94
(1993 Dollars)

	Wages and Salaries Per Hour		Compensation Per Hour	
Year*	Blue Collar	White Collar	Blue Collar	White Collar
1987	$ 13.71	$ 16.80	$ 17.22	$ 19.95
1988	13.52	16.52	17.10	19.68
1989	13.32	16.32	16.85	19.45
1990	12.79	16.41	16.28	19.65
1991	12.56	16.05	16.08	19.27
1992	12.67	16.22	16.38	19.55
1993	12.67	16.30	16.43	19.67
1994	12.59	16.30	16.50	19.76
Percent Change				
1987-89	-2.8%	-2.9%	-2.2%	-2.5%
1989-91	-5.7	-1.6	-4.5	-0.9
1991-94	0.3	1.6	2.6	2.6
1989-94	-5.5	-0.1	-2.0	1.6

---

* Data are for March. Consistent data for earlier years not available.

Source: Authors' analysis.

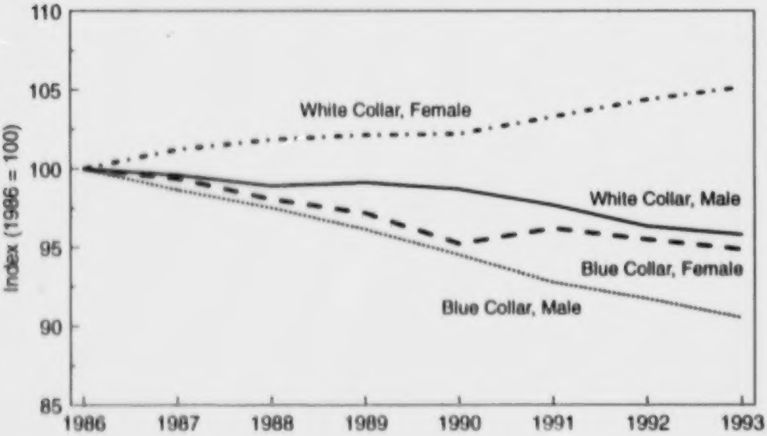
decline in hourly wages among blue-collar workers between 1979 and 1993 occurred among both men and women, 14.6% and 6.2%, respectively. Wages also fell for both men and women in service occupations (e.g., food, health, building service). Among women white-collar workers, wage growth was either modest (sales, technical, or clerical) or significant (executive and professional). In contrast, men in white-collar occupations experienced either modest or negative wage growth from 1979 to 1989, followed by almost uniformly declining real wages from 1989 to 1993. By 1993, wages for this group were 3.3% below their 1979 level. Male white-collar wages have been falling since 1986, as shown in **Figure 3B**. Thus, white-collar men over the last six years have been experiencing falling wages as have blue-collar men since 1979, although their wages have not dropped as quickly.

TABLE 3.5
Changes in Hourly Wages by Occupation, 1979-93 (1993 Dollars)

Occupation	Percent of Workforce 1989	Hourly Wage 1979	Hourly Wage 1989	Hourly Wage 1993	Percent Change 1979-89	Percent Change 1989-93	Percent Change 1979-93
Males							
White Collar	43.5%	$16.99	$16.99	$16.42	0.0%	-3.4%	-3.3%
Exec., Manager	12.5	18.67	19.93	18.98	6.7	-4.8	1.7
Professional	11.7	18.49	19.36	19.01	4.7	-1.8	2.8
Technical	3.4	16.17	16.33	15.94	1.0	-2.4	-1.4
Sales	9.6	14.86	13.93	13.36	-6.3	-4.1	-10.1
Admin., Clerical	6.6	13.20	12.07	12.09	-8.5	0.1	-8.4
Service	9.9	9.96	9.04	8.88	-9.2	-1.8	-10.8
Protective	3.0	12.63	12.63	12.87	0.0	1.9	1.9
Other	6.9	8.71	7.48	7.19	-14.1	-3.9	-17.4
Blue Collar	43.8	13.06	11.85	11.16	-9.3	-5.8	-14.6
Craft	20.5	14.59	13.44	12.78	-7.9	-4.9	-12.4
Operatives	8.8	12.09	11.04	10.32	-8.7	-6.5	-14.6
Trans. Op.	7.5	12.50	11.11	10.51	-11.1	-5.4	-15.9
Laborers	7.0	10.60	9.02	8.27	-14.9	-8.3	-22.0
Females							
White Collar	71.2%	$10.33	$11.26	$11.59	9.0%	3.0%	12.2%
Exec., Manager	10.9	11.83	13.68	14.00	15.6	2.3	18.3
Professional	15.4	13.10	14.80	15.13	13.0	2.2	15.5
Technical	3.7	11.54	12.36	12.30	7.1	-0.5	6.6
Sales	11.5	8.38	8.30	8.45	-1.0	1.8	0.9
Admin., Clerical	29.6	9.18	9.54	9.66	4.0	1.2	5.3
Service	15.1	7.07	6.60	6.77	-6.7	2.6	-4.2
Protective	0.6	n.a	n.a	n.a	n.a	n.a	n.a
Other	14.5	7.03	6.46	6.58	-8.2	1.9	-6.4
Blue Collar	11.8	8.46	8.12	7.93	-3.9	-2.4	-6.2
Craft	2.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Operatives	7.1	8.24	7.63	7.39	-7.4	-3.2	-10.3
Trans. Op.	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Laborers	1.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Authors' analysis.

FIGURE 3B
Blue-Collar and White-Collar Workers' Wages, 1986-93



Source: Authors' analysis.

Wage Trends by Wage Level

For any given trend in average wages, there will be different outcomes for particular groups of workers if wage inequality rises (or falls), as it has in recent years. **Table 3.6** provides data on wage trends for workers at different points (or levels) in the wage distribution, thus allowing us to characterize wage growth for low-, middle-, and high-wage earners. The data, presented for the cyclical peak years of 1973, 1979, and 1989 and for the most recent year, 1993, show that the deterioration in real wages since 1979 was both broad and uneven. The breadth of recent wage problems is clear from the fact that, over the 1979-89 period, real wages either fell or were stagnant for the bottom 60% of the workforce. The decline in wages was greater the lower the wage, with wages falling by 4.1% at the 60th percentile and 10.3% at the 20th. At the 80th percentile, wages in 1989 were only 0.4% above their 1979 level. The wage of the median worker, who earned more than half the workforce but also less than half the workforce, fell 2.1% from 1979 to 1989.

From 1989 to 1993 wages declined throughout the wage spectrum: the hourly wage at the 80th percentile fell 0.9%, while the median wage fell

TABLE 3.6
Wages for All Workers by Wage Percentile, 1973-93
(1993 Dollars)

Year	Wage Percentile 20	40	Median	60	80
Real Hourly Wages					
1973	$6.87	$9.33	$10.75	$12.28	$16.15
1979	6.80	9.21	10.43	12.27	16.67
1989	6.10	8.70	10.21	11.77	16.75
1991	6.16	8.54	10.05	11.66	16.41
1993	6.06	8.49	9.94	11.68	16.59
Percent Change					
1973-79	-1.0%	-1.3%	-3.0%	-0.1%	3.2%
1979-89	-10.3	-5.5	-2.1	-4.1	0.4
1989-93	-0.6	-2.4	-2.6	-0.8	-0.9
1973-93	-11.7	-9.0	-7.5	-4.9	2.7
Dollar Change					
1973-79	$-0.07	$-0.12	$-0.32	$-0.01	$0.52
1979-89	-0.70	-0.51	-0.22	-0.50	0.07
1989-93	-0.04	-0.21	-0.26	-0.09	-0.16
1973-93	-0.81	-0.84	-0.80	-0.60	0.44

Source: Authors' analysis.

2.6%. In 1993, wages among the bottom 60% were from 4.9% (60th percentile) to 11.7% (20th percentile) lower than they had been two decades earlier.

This overall picture, however, masks somewhat different outcomes for men and women. Among men, wages have fallen more and at all parts of the wage distribution (**Table 3.7**). In the middle, the median male hourly wage fell 10.1% between 1979 and 1989 and another 4.6% between 1989 and 1993, for a total fall of 14.3%. Even high-wage men (those at the 80th percentile) experienced a 1.7% wage decline over the 1979-89 period, followed by an additional 2.4% drop after 1989. Wages among low-wage men fell the most—14.3%—from 1979 to 1989, and dropped another 5.6% by 1993. These data thus show significant wage deterioration for nearly all men, with the bottom 60% suffering between a 15% and 20% wage reduction from 1979 to 1993. Since 1979, the median male hourly wage has fallen $1.87, or about 1% per year.

TABLE 3.7
Wages for Male Workers by Wage Percentile, 1973-93
(1993 Dollars)

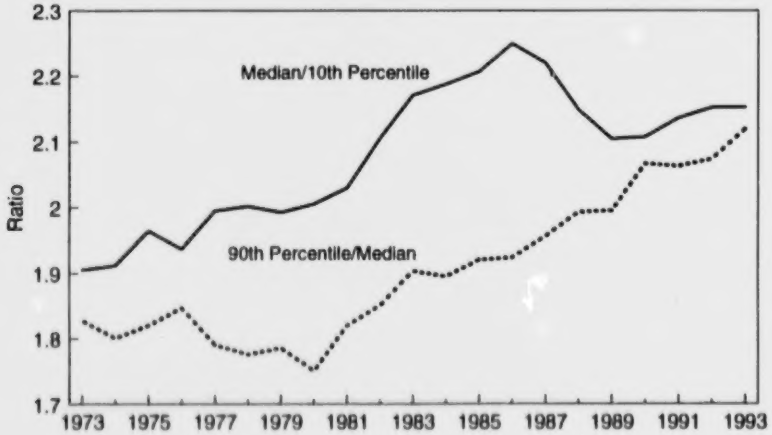
	Wage Percentile				
Year	20	40	Median	60	80
Real Hourly Wages					
1973	$8.40	$11.41	$12.73	$14.35	$18.54
1979	8.24	11.45	13.11	14.77	19.21
1989	7.06	10.25	11.78	13.86	18.88
1991	6.87	9.86	11.48	13.37	18.57
1993	6.66	9.77	11.24	13.09	18.43
Percent Change					
1973-79	-1.9%	0.3%	3.0%	2.9%	3.6%
1979-89	-14.3	-10.5	-10.1	-6.2	-1.7
1989-93	-5.6	-4.6	-4.6	-5.6	-2.4
1973-93	-20.6	-14.4	-11.7	-8.8	-0.6
Dollar Change					
1973-79	$-0.16	$0.04	$0.38	$0.42	$0.66
1979-89	-1.18	-1.21	-1.33	-0.91	-0.32
1989-93	-0.39	-0.48	-0.54	-0.77	-0.45
1973-93	-1.73	-1.64	-1.50	-1.26	-0.11

Source: Authors' analysis.

For men, the wage experience of the early 1990s looks much like, and perhaps worse, than that of the 1980s. **Figure 3C** shows that widely used measures of wage inequality—the wage differentials between the 90th percentile and the median (90/50) and between the median and the 10th percentile (50/10)—have been growing as quickly in the early 1990s as in the 1980s.

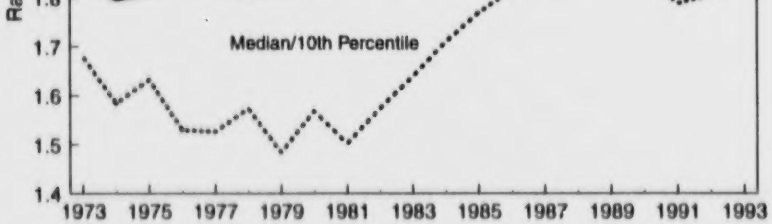
The only significant wage growth between 1979 and 1989 appears to have been among higher-wage women (**Table 3.8**). For instance, wages grew 12.7% at the 80th percentile and by 5.3% at the median. Among women in the bottom 40%, however, wage growth was either minimal or negative. As shown in **Figure 3D**, wage inequality among women continued to grow in the early 1990s. The wage gap at the top (i.e., the 90th/median differential) grew as quickly as in the 1980s, while at the bottom (i.e., the median/10th percentile differential) it began to widen again after closing somewhat in the 1988-90 period.

FIGURE 3C
Wage Inequality for Men, 1973-93



Source: Authors' analysis.

FIGURE 3D
Wage Inequality for Women, 1973-93



Source: Authors' analysis.

TABLE 3.8
Wages for Female Workers by Wage Percentile, 1973-93
(1993 Dollars)

	Wage Percentile				
Year	20	40	Median	60	80
Real Hourly Wages					
1973	$5.89	$7.43	$8.28	$9.32	$12.32
1979	6.06	7.45	8.24	9.30	12.32
1989	5.61	7.55	8.64	9.93	13.88
1991	5.55	7.55	8.61	10.02	13.84
1993	5.60	7.57	8.79	10.06	14.35
Percent Change					
1973-79	2.9%	0.3%	-0.6%	-0.2%	0.0%
1979-89	-7.4	1.4	4.9	6.7	12.7
1989-93	-0.2	0.2	1.6	1.3	3.3
1973-93	-4.8	1.9	6.1	7.8	16.4
Dollar Change					
1973-79	$0.17	$0.02	$-0.05	$-0.02	$0.00
1979-89	-0.45	0.10	0.41	0.62	1.56
1989-93	-0.01	0.02	0.14	0.13	0.46
1973-93	-0.29	0.14	0.50	0.73	2.03

Source: Authors' analysis.

The Male-Female Wage Gap

From 1979 to 1989, the median hourly wage for men fell $1.33, or 10.1%, while for women it rose $0.41, or 4.9% (**Table 3.9**). These moves led to a reduction in the hourly wage gap between men and women by 10.6 percentage points, from 62.8% in 1979 to 73.4% in 1989, representing a sizeable reduction in wage inequality. Even after this progress, however, women still earned one-fourth less than men in 1989.

This narrowing of the male/female wage gap is the result of both improvements in real hourly wages for women and real wage reductions for men. Table 3.9 provides an assessment of how much the narrowing of the male-female wage differential is due to rising real wages for women and how much is due to the real wage loss for men. If real wages among men had not fallen by 1989 but had remained at their 1979 level ($13.11), the wage gap would have been 65.9%, a drop of just 3.1 rather than the actual 10.6 percentage points. Thus, falling real wages among men can explain 71% of the closing of the gender wage gap between 1979 and 1989; only 29% was due to women's rising real wages (3.1% divided by 10.6%). Updating the analysis to 1993 yields a similar result, with 73% of the closing of the gap due to falling male wages.

TABLE 3.9
Changes in the Gender Wage Differential, 1973-93
(1993 Dollars)

	Median Hourly Wage			Women's
Year	Male	Female	Ratio	Share of Employment
1973	$12.73	$8.28	65.0%	38.5%
1979	13.11	8.24	62.8	41.7
1989	11.78	8.64	73.4	45.2
1993	11.24	8.79	78.2	45.8
1989 Alt.*	13.11	8.64	65.9	n.a.
1993 Alt.*	13.11	8.79	67.0	n.a.
Change				
1979-89	$-1.33	$0.41	10.6% pts.	
1979-93	-1.87	0.55	15.4	

Contribution to Narrower Wage Gap of Changes in:**

Period	Male Wage Decline	Female Wage Growth	Total
1979-89	71%	29%	100%
1979-93	73	27	100

---

* Alternative scenario if male wages did not decline in real terms since 1979.

** The contribution of "female wage growth" is the growth of the gender differential assuming male real wages did not fall (the alternative scenario) relative to the actual change in the differential.

Source: Authors' analysis.

The Expansion of Low-Wage Jobs

Another useful way of characterizing changes in the wage structure is to examine the trend in the proportion of workers earning low, middle, and high wages. These trends are presented in **Table 3.10** for all workers and for

TABLE 3.10
Distribution of Total Employment by Wage Level, 1973-93

Hourly Wage Relative to Poverty Level*	Percent Distribution of Employment				Percentage-Point Change		
	1973	1979	1989	1993	1973-79	1979-89	1989-93
Total							
Below 75% Pov.	6.8%	4.1%	11.6%	13.3%	-2.8	7.6	1.7
To below 100%	17.1	18.8	13.7	13.6	1.7	-5.1	-0.1
To below 125%	12.5	13.7	13.9	14.5	1.2	0.2	0.5
To below 200%	33.4	32.5	29.8	29.1	-0.9	-2.7	-0.8
To below 300%	21.1	21.8	20.4	19.2	0.7	-1.4	-1.2
Above 300%	9.2	9.1	10.6	10.3	-0.1	1.5	-0.3
All	100.0	100.0	100.0	100.0			
Men							
Below 75% Pov.	3.4%	2.3%	7.8%	10.3%	-1.1	5.5	2.5
To below 100%	9.7	10.6	10.6	11.1	0.9	0.0	0.4
To below 125%	9.0	9.6	11.6	12.6	0.6	2.0	1.0
To below 200%	34.9	32.8	29.5	29.1	-2.1	-3.3	-0.4
To below 300%	29.3	30.5	25.1	22.9	1.1	-5.3	-2.2
Above 300%	13.8	14.3	15.4	14.1	0.5	1.1	-1.2
All	100.0	100.0	100.0	100.0			
Women							
Below 75% Pov.	11.7%	6.4%	15.9%	16.7%	-5.3	9.6	0.7
To below 100%	27.8	29.4	17.1	16.4	1.6	-12.3	-0.7
To below 125%	17.5	19.1	16.5	16.5	1.6	-2.6	0.0
To below 200%	31.4	32.1	30.2	29.1	0.7	-2.0	-1.1
To below 300%	9.2	10.6	15.1	15.3	1.4	4.6	0.1
Above 300%	2.5	2.4	5.2	6.2	-0.1	2.8	1.0
All	100.0	100.0	100.0	100.0			
*Percent Earning Poverty-Level Wages***							
All	23.9%	22.8%	25.3%	26.9%	-1.1	2.4	1.7
Men	13.1	12.9	18.4	21.4	-0.3	5.5	2.9
Women	39.5	35.8	33.0	33.0	-3.7	-2.8	0.0

* The wage ranges are equivalent in 1993 dollars to: $5.20 and below, $5.21-$6.93, $6.94-$8.66, $8.67-$13.86, $13.87-$20.79, $20.79 and more.

** Combines lowest two categories.

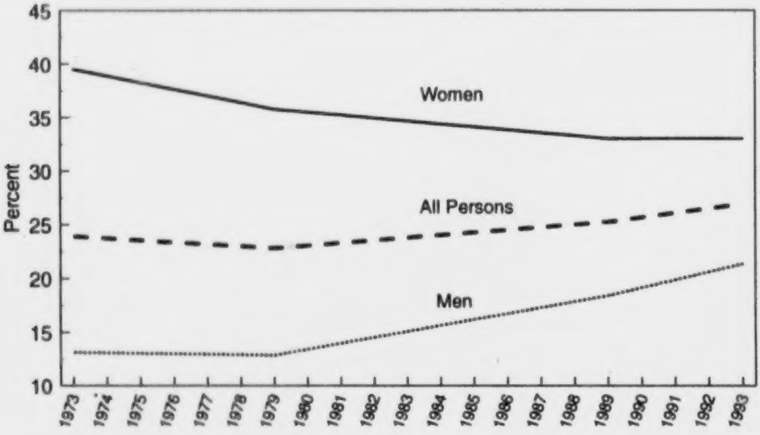
Source: Authors' analysis.

men and women. The workforce is divided into six wage groups based on multiples of the "poverty-wage level," or the hourly wage a full-time, year-round worker must earn to sustain a family of four at the poverty threshold—which was $6.93 in 1993. Thus, workers are assigned to a wage group according to the degree to which they earned more (or less) than poverty-level wages.

Table 3.10 and **Figure 3E** show that there was a significant expansion of workers earning far less than poverty-level wages since 1979. In 1979, only 4.1% of the workforce were "very low earners," with wages at least 25% below the poverty-level wage. By 1989, 11.6% of the workforce earned such wages, a shift of 7.6% of the workforce into this low-wage group, and an additional 1.7% became very low earners between 1989 and 1993. Likewise, in 1989, 25.3% of the workforce earned poverty-level wages (derived from adding the two lowest-paying categories together, as in the bottom panel), a rise from 22.8% in 1979. The share of workers earning poverty-level wages rose to 26.9% in 1993.

Over the 1979-89 and 1989-93 periods, there was a general downward shift in the entire wage structure, with proportionately fewer workers in the

FIGURE 3E
Percent of Workers Earning Poverty-Level Wages, 1973-93



Source: Authors' analysis.

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middle- and high-wage groups in 1989 or 1993 than in, respectively, 1979 or 1989. The only exception is the modest expansion of the share of the workforce at the very highest earnings level (exceeding three times the poverty-level wage) and a slight growth of the workforce just above the poverty wage.

Among women there was a larger shift downward over the 1979-89 period—an additional 9.6% earned very low wages—and a larger shift upward—the two highest-wage groups grew by 7.4%. The shift downward among women appears to be an enlargement of the workforce earning very low wages while the proportion earning poverty-level wages actually declined, from 35.8% to 33.0%. Similar trends prevailed in the 1989-93 period.

Among men, the overall changes in the wage structure between 1979 and 1989 meant proportionately fewer middle-class workers and more low-wage workers, with a slight growth of very high earners. For instance, there was an increased proportion of men earning less than 125% of the poverty-level wage—a 7.5% shift—and a shrinking proportion of men in the second- and third-highest wage groups.

Women are much more likely to earn low wages than men. In 1989, 33.0% of women earned poverty-level wages or less, nearly double the share of men (18.4%). Women were also much less likely to earn very high wages in that year. In 1989, only 5.2% of women but 15.4% of men earned at least three times the poverty-level wage.

Tables 3.11, 3.12, and **3.13** (and **Figure 3F**) present a similar analysis as Table 3.10 for white, black, and Hispanic employment. For instance, Table 3.11 shows that there was a modest shift downward in the wage structure for whites in the 1970s, followed by a larger downward shift in the 1979-89 period and during the early 1990s. As with the total workforce, there was a modest growth of high-wage employment among white men, at least until 1989, and a much larger shift to high-wage employment among white women. Over the entire period from 1973 to 1993, however, there was a significant shift toward proportionately fewer white men in the middle- and higher-wage groups and an equivalent growth of the share of men earning poverty-level wages, from 11.4% in 1973 to 17.6% in 1993. Among white women, there was a simultaneous shift toward very low-wage work and an expansion of women at the highest wage levels.

Among blacks (Table 3.12), there was a general downward shift out of better-paying employment into low-wage employment from 1979 to 1989 and in the early 1990s, with a modest growth of very high earners. By 1993, 36.4% of black workers (33.2% of black men and 39.4% of black women) were

TABLE 3.11
Distribution of White Employment by Wage Level, 1973-93

Hourly Wage Relative to Poverty Level*	Percent Distribution of Employment				Percentage-Point Change		
	1973	1979	1989	1993	1973-79	1979-89	1989-93
Total							
Below 75% Pov.	6.0%	3.7%	10.3%	11.6%	-2.3	6.6	1.3
To below 100%	15.8	17.4	12.3	12.3	1.6	-5.0	0.0
To below 125%	12.1	13.2	13.3	13.9	1.1	0.1	0.6
To below 200%	33.7	32.8	30.3	29.7	-0.9	-2.5	-0.6
To below 300%	22.4	22.9	21.8	20.9	0.5	-1.1	-1.0
Above 300%	10.1	10.1	11.9	11.6	0.0	1.9	-0.4
All	100.0	100.0	100.0	100.0			
Men							
Below 75% Pov.	2.8%	1.9%	6.3%	8.3%	-0.9	4.4	1.9
To below 100%	8.3	9.1	8.8	9.3	0.8	-0.3	0.5
To below 125%	8.3	8.7	10.6	11.6	0.4	1.9	1.1
To below 200%	34.4	32.5	29.6	29.6	-1.9	-2.9	0.0
To below 300%	30.9	32.0	27.1	25.1	1.1	-4.9	-2.0
Above 300%	15.3	15.8	17.7	16.2	0.5	1.9	-1.5
All	100.0	100.0	100.0	100.0			
Women							
Below 75% Pov.	10.6%	6.1%	14.8%	15.2%	-4.5	8.8	0.4
To below 100%	26.9	28.3	16.3	15.6	1.4	-12.1	-0.7
To below 125%	17.6	19.2	16.4	16.4	1.6	-2.8	0.0
To below 200%	32.6	33.1	31.1	29.9	0.5	-2.0	-1.2
To below 300%	9.7	10.8	15.9	16.3	1.1	5.1	0.4
Above 300%	2.5	2.5	5.5	6.6	0.0	3.0	1.1
All	100.0	100.0	100.0	100.0			
*Percent Earning Poverty-Level Wages***							
All	21.8%	21.1%	22.6%	23.9%	-0.7	1.6	1.3
Men	11.1	11.0	15.1	17.6	-0.1	4.1	2.5
Women	37.5	34.4	31.1	30.8	-3.1	-3.3	-0.3

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* The wage ranges are equivalent in 1993 dollars to: $5.20 and below, $5.21-$6.93, $6.94-$8.66, $8.67-$13.86, $13.87-$20.79, and $20.79 and more.

** Combines the lowest two categories.

Source: Authors' analysis.

in jobs paying less than poverty-level wages. The post-1979 shift toward the very lowest-paying jobs—an additional 12.1% of black men and 12.4% of black women—was much larger than among whites. However, the share of black women earning poverty-level wages fell considerably over the last 20

TABLE 3.12
Distribution of Black Employment by Wage Level, 1973-93

Hourly Wage Relative to Poverty Level*	Percent Distribution of Employment				Percentage-Point Change		
	1973	1979	1989	1993	1973-79	1979-89	1989-93
Total							
Below 75% Pov.	12.1%	6.0%	16.8%	18.4%	-6.1	10.8	1.6
To below 100%	23.9	25.5	17.8	18.0	1.6	-7.7	0.2
To below 125%	14.7	16.4	16.2	16.9	1.7	-0.2	0.6
To below 200%	32.4	31.3	28.5	27.9	-1.1	-2.8	-0.7
To below 300%	13.5	16.7	15.9	14.1	3.2	-0.8	-1.8
Above 300%	3.4	4.1	4.8	5.1	0.7	0.7	0.3
All	100.0	100.0	100.0	100.0			
Men							
Below 75% Pov.	6.4%	4.1%	13.0%	16.3%	-2.3	8.9	3.2
To below 100%	17.6	18.5	16.1	16.9	0.8	-2.3	0.8
To below 125%	13.6	14.0	16.0	16.1	0.4	2.0	0.1
To below 200%	38.6	34.5	29.8	28.6	-4.1	-4.7	-1.2
To below 300%	19.6	22.8	19.3	16.4	3.2	-3.5	-2.9
Above 300%	4.3	6.2	5.8	5.8	1.9	0.4	-0.1
All	100.0	100.0	100.0	100.0			
Women							
Below 75% Pov.	18.7%	8.0%	20.3%	20.4%	-10.7	12.3	0.1
To below 100%	31.0	33.1	19.4	19.0	2.1	-13.7	-0.3
To below 125%	16.0	19.1	16.5	17.5	3.1	-2.6	1.1
To below 200%	25.3	27.8	27.3	26.6	2.5	-0.5	-0.7
To below 300%	6.6	10.1	12.7	12.0	3.5	2.6	-0.8
Above 300%	2.4	1.9	3.8	4.5	-0.5	1.9	0.7
All	100.0	100.0	100.0	100.0			
*Percent Earning Poverty-Level Wages***							
All	36.0%	31.5%	34.5%	36.4%	-4.5	3.0	1.8
Men	24.0	22.6	29.2	33.2	-1.4	6.6	4.0
Women	49.7	41.1	39.7	39.4	-8.6	-1.4	-0.3

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* The wage ranges are equivalent in 1993 dollars to: $5.20 and below, $5.21-$6.93, $6.94-$8.66, $8.67-$13.86, $13.87-$20.79, and $20.79 and more.

** Combines lowest two categories.

Source: Authors' analysis.

years (49.7% to 39.4%), while poverty wages became more commonplace among black men (up from 24.0% to 33.2%).

Since 1979, there has been a general downshifting of the Hispanic wage structure, for men and for men and women combined, with a very modest

TABLE 3.13
Distribution of Hispanic Employment by Wage Level, 1973-93

Hourly Wage Relative to Poverty Level*	Percent Distribution of Employment				Percentage-Point Change		
	1973	1979	1989	1993	1973-79	1979-89	1989-93
Total							
Below 75% Pov.	10.1%	5.2%	17.6%	23.1%	-4.9	12.4	5.5
To below 100%	24.6	27.3	21.4	19.4	2.7	-5.9	-2.0
To below 125%	15.1	16.1	16.6	16.4	1.0	0.5	-0.2
To below 200%	33.2	31.7	27.3	25.3	-1.5	-4.4	-2.0
To below 300%	13.2	15.6	12.8	11.5	2.4	-2.8	-1.3
Above 300%	3.2	4.0	4.3	4.3	0.1	0.3	0.0
All	100.0	100.0	100.0	100.0			
Men							
Below 75% Pov.	7.6%	3.4%	14.5%	20.1%	-4.2	11.1	5.6
To below 100%	18.1	19.1	20.0	18.8	1.0	0.9	-1.2
To below 125%	12.6	14.6	15.7	16.8	2.0	1.1	1.1
To below 200%	38.4	35.9	28.8	25.8	-2.5	-7.1	-3.0
To below 300%	17.9	21.2	15.5	13.5	3.3	-5.7	-2.1
Above 300%	5.3	5.7	5.5	5.1	0.4	-0.2	-0.4
All	100.0	100.0	100.0	100.0			
Women							
Below 75% Pov.	14.3%	7.9%	22.0%	27.3%	-6.4	14.1	5.3
To below 100%	35.9	39.8	23.6	20.4	3.9	-16.2	-3.2
To below 125%	19.5	18.3	17.9	16.0	-1.2	-0.4	-2.0
To below 200%	23.9	25.4	25.1	24.5	1.5	-0.3	-0.6
To below 300%	4.8	7.1	8.9	8.7	2.3	1.8	-0.2
Above 300%	1.6	1.5	2.5	3.2	-0.1	1.0	-0.7
All	100.0	100.0	100.0	100.0			
*Percent Earning Poverty-Level Wages***							
All	34.7	32.5	39.0	42.5	-2.2	6.5	3.5
Men	25.7	22.6	34.6	39.0	-3.1	12.0	4.4
Women	50.2	47.7	45.6	47.7	-2.5	-2.1	2.1

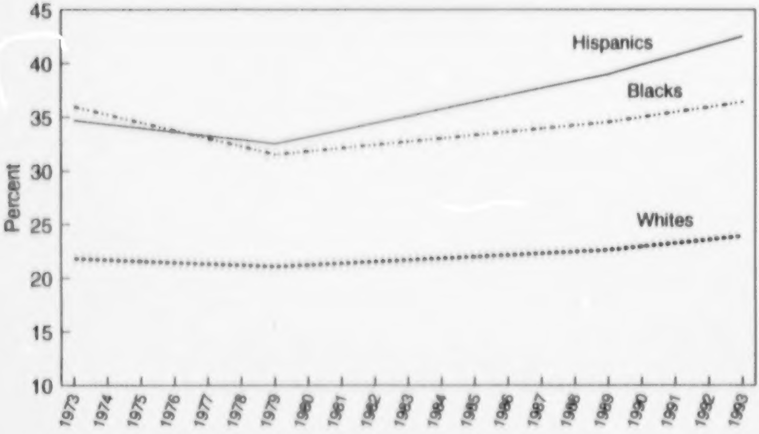
* The wage ranges are equivalent in 1993 dollars to: $5.20 and below, $5.21-$6.93, $6.94-$8.66, $8.67-$13.86, $13.87-$20.79, and $20.79 and more.

** Combines the lowest two categories.

Source: Authors' analysis.

growth in the highest-wage jobs. Among Hispanic women, however, between 1979 and 1989 there was a large shift into the lowest-wage jobs, but also some (1.0 percentage point) growth in employment paying three times the poverty-level wage.

FIGURE 3F
Percent of Workers Earning Poverty-Level Wages,
by Race/Ethnicity, 1973-93



Source: Authors' analysis.

Benefit Reduction

This section provides a more detailed examination of the trends in the provision of fringe benefits. As we saw earlier in Table 3.2, the real value of both wages and fringe benefits has fallen in recent years. In the 1980s, employers reduced pension and health coverage and provided fewer days off with pay. These benefit reductions have affected workers across the wage scale, but, again, low-wage workers have experienced the greatest fall-off in health and pension coverage.

Table 3.14 examines the trend in employers' provision of the major benefit plans, pensions, and health insurance between 1966 (the earliest available data) and 1994. The average employer contribution for pension and savings plans more than doubled between 1966 and 1977 but has been falling in each period thereafter. Between 1977 and 1989 the costs of retirement benefits fell nearly 40%, from $0.79 to $0.49 an hour.

Measured by average inflation (the "All Goods and Services" column), employer-provided health insurance benefits rose rapidly over the late 1960s until 1977; they continued to grow into the 1980s through 1989 but at a

TABLE 3.14
Employer Hourly Benefit Costs, by Type, 1966-94
(1993 Dollars)

		Health Insurance Adjusted for Inflation in:		
Year	Pension & Savings	All Goods & Services*	Medical Services*	Total Voluntary Benefits**
Benefit Level				
1966	$ 0.37	$ 0.28	$ 0.59	$ 0.65
1972	0.56	0.52	0.90	1.10
1977	0.79	0.72	1.15	1.52
1987	0.62	0.92	1.12	1.54
1989	0.49	1.00	1.16	1.49
1994	0.51	1.20	1.21	1.71
Percent Change				
1966-72	58.6%	81.2%	52.2%	68.5%
1972-77	36.6	40.5	27.3	38.4
1977-89	-37.8	37.7	0.6	-1.7
1989-94	2.9	20.2	4.2	14.5

---

* The two inflation-adjusted measures of real insurance costs per hour differ because medical service prices rose substantially faster than average prices.

** Benefits exclusive of payroll taxes, adjusted for overall inflation. The data for 1987 and later years are for March.

Source: Authors' analysis.

slower *annual* rate. However, the overall rise in employer health insurance costs of $0.28 per hour worked, between 1977 and 1989, is far from exorbitant. Apparently, even though health insurance costs had indeed risen rapidly among some employers in the 1980s, there was such large employment growth among employers who provided little or no health insurance benefits that the *average* costs grew only modestly.

However, the far faster inflation in medical services means that the real health insurance coverage provided per hour worked—the amount of real medical services purchasable by an employer's average benefit cost—remained relatively stable between 1977 and 1989. That is, employers increased their spending on health insurance only about as fast as medical service prices were rising, so the quantity and quality of health insurance provided by employers did not generally rise between 1977 and 1989. There was a faster increase of 4.2%, using the medical services inflation measure, in health insurance spending between 1989 and 1994.

As the last column in Table 3.14 shows (repeated from Table 3.2), the increase in "voluntary" fringe benefits (excluding payroll taxes for Social Security, workers' compensation, and unemployment insurance) was rapid over the 1966-77 period, but then did not resume until after 1989.

Table 3.15 examines the decline in pension and health insurance coverage for different demographic groups between 1979 and 1989. The percentage of the private workforce covered by a pension plan dropped from 50.0% in 1979 to 42.9% in 1989. This drop in coverage is perhaps one of the reasons for the lessening of pension costs for employers over the period. Lower pension coverage appears to be occurring primarily among men, whose coverage fell 10.1 percentage points. Women workers, however, are still less likely than men to be covered by an employer's pension plan. Blacks and whites fared about equally well, experiencing a 5.2% and 6.4% drop in coverage, respectively. Hispanics, however, were the hardest hit, with an 11.7% decline in pension coverage from 1979 to 1989. Pension coverage declined among college graduates and those with less than a college degree; it declined most among those at the lowest education levels.

Similar trends have occurred regarding health insurance coverage. The greatest loss was among men, Hispanics, and workers with less than a college degree. By 1989, more than a third of workers without a college degree—even those with some education beyond high school—did not have employer-provided health insurance.

Table 3.15 also shows the erosion of pension and health insurance coverage at each wage level from 1979 to 1989. The general pattern is that the groups with the lowest wages experienced proportionally greater declines in benefit coverage. The primary exception is for pension coverage among the lowest wage group, which had such low pension coverage in 1979—just 18.3%—that there was not much room for erosion.

Workers are also receiving less time off for vacations and holidays (**Table 3.16**). The longest historical comparison available is for manufacturing workers. For these employees, the number of paid days off rose from 15.9 per year in 1947 to 23.1 days in 1979, but this trend was reversed in the 1980s. In 1989, the average manufacturing worker received only 20.8 days off with pay, 2.3 fewer than in 1979. For the nonfarm business workforce as a whole, paid time off grew from 15.1 days in 1966 to 19.8 days in 1981. By 1989, however, paid time off had declined 3.7 days for the average worker, to 16.1. In contrast, European workers have more paid time off and have been obtaining more, rather than less, paid time off since 1980 (see Chapter 8).

TABLE 3.15
Changes in Private-Sector Benefit Coverage, 1979-89

	Pension Coverage**			Health Insurance Coverage***		
Group*	1979	1989	Change 1979-89	1979	1989	Change 1979-89
All Workers	50.0%	42.9%	-7.1	68.5%	61.1%	-7.4
By Gender						
Men	55.9%	45.8%	-10.1	74.6%	66.3%	-8.3
Women	41.1	39.2	-1.9	59.1	54.4	-4.7
By Race						
White	51.5%	45.1%	-6.4	69.7%	63.4%	-6.3
Black	45.7	40.5	-5.2	63.0	56.2	-6.8
Hispanic	37.8	26.1	-11.7	60.3	46.0	-14.3
By Education						
High School Dropout	43.7%	27.5%	-16.2	61.0%	44.6%	-16.4
High School Graduate	49.9	41.6	-8.3	68.4	60.0	-8.4
Some College	49.6	43.5	-6.1	69.2	60.9	-8.3
College	59.2	53.4	-5.8	78.5	73.5	-5.0
More than College	60.9	59.6	-1.3	78.5	77.1	-1.4
By Wage Fifth						
Lowest	18.3%	12.8%	-5.5	39.7%	26.4%	-11.5
Second	36.6	28.8	-7.8	60.3	51.5	-8.8
Middle	51.9	44.1	-7.8	74.3	67.1	-7.2
Fourth	67.8	59.1	-8.7	83.1	77.4	-5.7
Top	76.2	69.8	-6.4	87.6	83.1	-4.5

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* Wage and salary workers, ages 18-64, with at least 20 weekly hours and 26 weeks of work.

** Employee participates in employer's plan.

***Employer provides coverage plan and pays at least some of the costs.

Source: Authors' analysis.

TABLE 3.16
Days Off With Pay, 1947-89

	Number of Days Off With Pay Per Year*	
Year	Nonfarm Business	Manufacturing
1947	n.a.	15.9
1966	15.1	17.9
1972	17.4	20.5
1977	19.8	22.6
1979	n.a.	23.1
1981	19.8	22.9
1989	16.1	20.8

---

* Assuming 2,080 hours paid per year. Days would include, for instance, holiday, vacation, sick, and funeral leave. Years selected based on data availability.

Source: Authors' analysis.

Dimensions of Inequality

In this section we shift the discussion from a presentation of wage and benefit trends overall, and for subgroups, to an examination of explanations for the pattern of recent wage growth. The items to be explained include stagnant average wages since 1973 and the dramatic growth in wage inequality in the 1980s and early 1990s. More specifically, it is important to understand both the average performance of wage growth and why particular groups fared well or poorly.

The data presented above have shown the stagnation of wages and overall compensation over the last 20 years. **Table 3.17** presents indicators of the variety of dimensions (excluding race and gender differentials) of the wage structure that have grown more unequal over the last 20 years. These trends are illustrated with data for men. Any explanation of growing wage inequality must be able to explain the movement of these indicators.

The top panel shows the trends in the 90/10 wage differential and its two components, the 90/50 and 50/10 wage differentials, over the 1973-93 period. The 90/10 wage gap, for instance, shows the degree to which the 90th percentile worker—a "high-wage" worker who makes more than 90% but less than 10% of the workforce—fared better than the low-wage worker at the 10th percentile. The 90/50 wage gap shows how high earners did relative to middle earners, and the 50/10 wage gap shows how middle earners

TABLE 3.17
Dimensions of Male-Wage-Inequality Growth, 1973-93

	Wage Ratio (Log)				Percentage-Point Change		
Wage Differential	**1973**	**1979**	**1989**	**1993**	**1973-79**	**1979-89**	**1989-93**
Total Wage Inequality							
a. 90/10 Wage Ratio							
Weekly Wage	1.19	1.24	1.49	n.a.	0.06	0.25	n.a.
Hourly Wage	1.25	1.27	1.43	1.52	0.02	0.17	0.08
b. 90/50 Wage Ratio							
Weekly Wage	0.58	0.57	0.68	n.a.	-0.01	0.11	n.a.
Hourly Wage	0.60	0.58	0.69	0.75	-0.02	0.11	0.06
c. 50/10 Wage Ratio							
Weekly Wage	0.61	0.68	0.82	n.a.	0.07	0.14	n.a.
Hourly Wage	0.64	0.69	0.74	0.77	0.04	0.05	0.02
Between-Group Wage Inequality							
a. College/ H.S. Wage Ratio	0.33	0.29	0.43	0.45	-0.04	0.14	0.02
*b. Experienced/ Entry Wage Ratio**	0.44	0.46	0.57	0.63	0.02	0.11	0.06
Within-Group Wage Inequality*							
90/10 Ratio							
Weekly Wage	0.96	1.06	1.20	n.a.	0.10	0.14	n.a.
Hourly Wage**	0.98	0.99/ 1.01	1.11	n.a	0.00	0.10	n.a.

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* Wage ratio of workers with 26-30 years to 1-5 years experience.

** The data for 1979 were computed with and without imputed data to match 1973 data (only nonimputed) and 1989 (all data).

*** Inequality among workers with similar education and experience levels.

Source: Weekly wage trends from Juhn et al. (1992) based on March CPS series. Hourly wage trends from authors' analysis of Outgoing Rotation Group CPS series.

fared relative to low-wage earners. Two wage series are used to track these trends. The "weekly wage" series is derived from data on annual wages and weeks worked in a year; the source is a survey of workers conducted several months after the calendar year ends. The "hourly wage" series is based on a series of monthly surveys asking people about their pay and hours in the previous week.

Both wage series show a dramatic growth of total wage inequality in the 1979-89 period (as indicated by the 90/10 wage gap) following a more modest growth of wage inequality in the 1973-79 period. The hourly wage series data, which are the only data available for recent years, show a further growth of wage inequality in the early 1990s.

The modest growth of wage inequality in the 1970s was the consequence of a slight shrinking of the wage gap between high and middle earners and a widening of the gap in the bottom half of the wage structure. The character of the 1979-89 wage inequality differs between the two series. The hourly series shows a pulling away of the top from the middle (of 11 percentage points) and a continued drift of the middle away from the bottom. The weekly series, however, shows more separation at the bottom than at the top.

Analysts have tended to "decompose," or break down, growing wage inequality into two types of inequality—"between-group" and "within-group." The former is illustrated in Table 3.17 with the growing wage differentials between groups of workers defined by their labor-market experience and by their education levels (based on the hourly wage series). The experience differential grew modestly in the 1970s and quite rapidly since 1979. In contrast, the "college wage premium"—the wage gap between college and high school graduates—fell in the 1970s, from 0.33 to 0.29, but exploded in the 1980s; it hit 0.43 in 1989. The slow growth of the college wage premium between 1989 and 1993 (to 0.45) reflects a slight growth from 1989 to 1990 and no growth between 1990 and 1993, a trend we discuss below. For current purposes it is important to note that two major types of between-group inequality—education and experience—grew rapidly from 1979 to 1989. Some analysts describe these trends as reflecting a growing wage premium for "skill," a claim we analyze below.

Within-group wage inequality—wage dispersion among workers with comparable education and experience—also grew over the 1979-89 period. In fact, about half of the growth in overall wage inequality can be attributed to growing inequality among similar workers. The two wage series differ in their description of the 1970s, with the weekly but not the hourly wage series showing growing within-group inequality. The interpretation of growing wage inequality among workers with similar "human capital" has not been the subject of much research. Some analysts suggest it reflects growing premiums for skills of workers that are not captured by traditional human-capital measures available in government surveys. Others suggest that changing "wage norms," employer practices, and institutions are responsible. We return to this debate below.

What Explains Wage Trends?

The most commonly mentioned reason for recent wage problems is slow productivity growth (i.e., changes in output per hour worked) since 1973. As the data in Table 3.1 show, productivity grew by only 0.6% annually from 1973 to 1979. Productivity picked up in the 1979-89 period to a slightly higher 0.8% annual rate. The productivity growth record since 1973, however, does not come near the rapid growth in the 1959-73 period of 2.4% annually.

Slow productivity growth has been a major problem, but it provides only a partial explanation for average wage trends, since productivity has grown more than wages and, in some measures, the average wage has fallen while productivity has risen. For example, while productivity grew a total of 3.6% between 1973 and 1979 and another 8.7% from 1979 to 1989, average wages grew a total of 1.2% during the entire period. Furthermore, slow productivity growth cannot explain changes in the wage structure or why some groups experienced wage growth and others experienced wage reductions.

Some observers have suggested that the exclusion of benefit trends from a table such as Table 3.17 yields a misleading characterization of pay trends because, while wages may be falling, benefits have risen, and there has been an overall increase in total compensation (wages and benefits). However, as we saw earlier in Table 3.2, some measures show that both compensation and wages have fallen since the late 1970s. Our analysis of benefits also shows that they are both smaller in size than is generally believed and have risen only slightly, contrary to many claims. It is true, however, that compensation has not fallen as much as wages because, in various periods, benefits declined less than wages or even grew slightly. Thus, fringe-benefit trends do not solve the puzzle of falling pay and rising productivity.

Unfortunately, there has not been extensive research on this issue. One explanation is that prices for national output have grown more slowly than prices for consumer purchases. Therefore, the same growth in nominal, or current-dollar, wages and output yields a faster growth in real (inflation-adjusted) output (which is adjusted for changes in the prices of investment goods, exports, and consumer purchases) than in real wages (adjusted for changes in consumer purchases only). That is, workers have suffered a worsening "terms of trade," where the prices of things they buy (i.e., consumer goods) have risen faster than the items they produce (consumer goods but also capital goods). Another explanation is that a greater share of productivity growth is accruing to owners of capital via higher profits and interest rates.

Rising Education Wage Differentials

Changes in the economic returns to education affect the structure of wages by changing the wage gaps between different educational groups. The growth in "education wage differentials" has led to greater wage inequality in the 1980s (see Table 3.17) and helps explain the relatively faster wage growth among high-wage workers. This section examines wage trends among workers at different levels of education and begins the discussion, carried on through the remainder of the chapter, of the causes of rising education wage differentials.

Table 3.18 presents the wage trends (also see **Figure 3G**) and employment shares (percentage of the workforce) for workers at various education levels over the 1973-93 period. It is common to point out that the wages of

TABLE 3.18
Change in Real Hourly Wage by Education, 1973-93 (1993 Dollars)

Year	High School Dropout	High School Graduate	Some College	College	College & 2+ Years
Real Hourly Wages					
1973	$10.16	$11.63	$12.86	$16.99	$20.91
1979	10.06	11.23	12.24	15.52	18.80
1987	8.74	10.49	11.96	15.98	19.77
1989	8.44	10.21	11.82	15.90	20.36
1990	8.21	10.04	11.81	15.99	20.29
1993	7.87	9.92	11.37	15.71	19.93
Percent Change					
1973-79	-1.1%	-3.5%	-4.8%	-8.6%	-10.1%
1979-89	-16.1	-9.1	-3.5	2.4	8.3
1989-93	-6.7	-2.8	-3.8	-1.2	-2.1
1990-93	-4.2	-1.2	-3.8	-1.7	-1.8
1973-93	-22.5	-14.7	-11.6	-7.5	-4.7
*Share of Workforce**					
1973	28.5%	41.8%	15.1%	8.8%	3.6%
1979	20.1	42.2	19.1	11.0	4.9
1989	13.7	40.5	22.3	14.0	6.9

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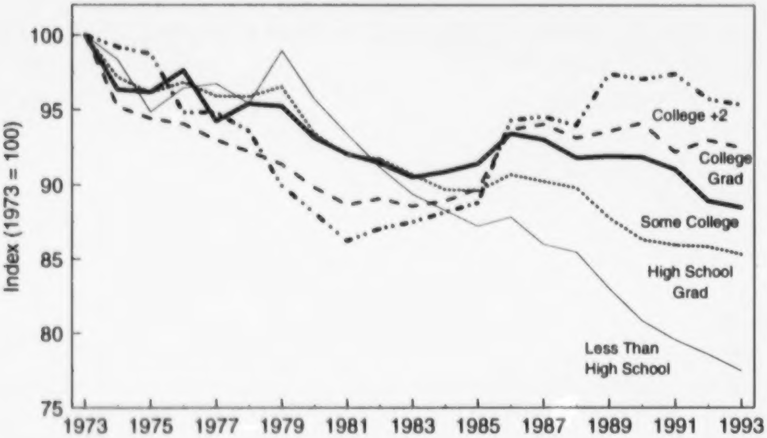
* Since the shares of those with one year of schooling beyond college are not shown, the presented shares do not sum to 100. Data for 1993 not available.

Source: Authors' analysis.

FIGURE 3G
Hourly Wages by Education, 1973-93

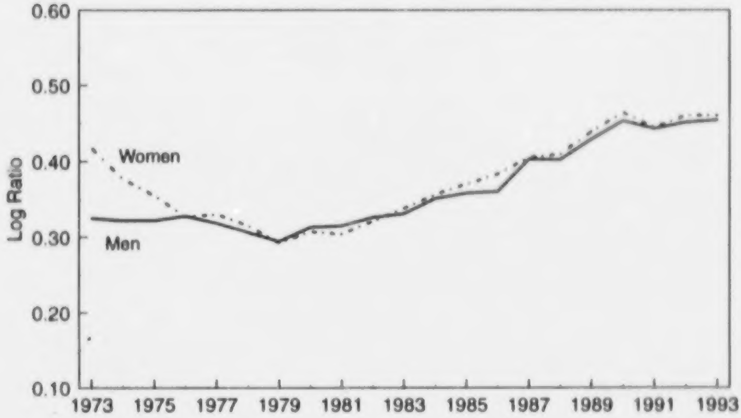


Source: Authors' analysis.

"more-educated" workers grew faster than the wages of "less-educated" workers from 1979 to 1989, with the real wages of "less-educated" workers falling sharply. This pattern of wage growth is sometimes described in terms of a rising differential, or "premium," between the wages of the college-educated and high-school-educated workforces (as shown earlier in Table 3.17 with the "log" differential). For instance, college-educated workers earned 38.2% more than high school graduates in 1979 ($15.52 versus $11.23), but 55.7% more in 1989. The trend in the college/high school wage premium is shown in **Figure 3H**. It is useful to note that the college wage premium was flat over the 1990-93 period. (Regression-based education differentials presented in the Appendix show the flattening of the college wage premium began in 1989.) Yet, the growth of overall wage inequality, particularly the 90/10 wage differential, continued to grow. The "disconnect" between these two trends reinforces the point that overall wage inequality has been only partially driven by a higher college premium, and that growing within-group inequality has been an equally important continuing force.

The usual terminology of the "less-educated" and "more-educated" turns out to be somewhat misleading. Given that workers with some college education (from one to three years) also experienced falling real wages, it is ap-

FIGURE 3H
College/High School Wage Premium, 1973-93



Source: Authors' analysis.

parent that the "less-educated" group with falling wages comprises more than three-fourths of the workforce. Moreover, the "college-educated" group consists of two groups: one is those with just four years of college, who enjoyed only a minimal 2.4% wage gain over the 1979-89 period, and the other is the more-educated (college plus at least two more years of schooling) but smaller (6.9% of the workforce in 1989) group that enjoyed better wage growth.

This increased differential between college-educated and other workers is frequently ascribed to a relative increase in employer demand for workers with greater skills and education. This interpretation follows from the fact that the wages of college-educated workers increased relative to others despite a sizeable increase in their relative supply, from 11.0% of the workforce in 1979 to 14.0% in 1989. That is, given the increased supply of educated workers, the fact that their wages were bid up implies a strong growth in employer demand for more-educated workers, presumably reflecting technological and other workplace trends.

Yet an increased relative demand for educated workers is only a partial explanation, especially if ascribed to a benign process of technology or other factors leading to a higher value for education, thus bidding up the wages of more-educated workers. Note, for instance, that the primary reason for an increased wage gap between college-educated and other workers is the precipitous decline of wages among the non-college-educated workforce and not any strong growth of the college wage. Moreover, as discussed below, there are many other factors, such as the shift to low-wage industries, deunionization, and import competition, that are also important. Below, we present direct evidence that technological change has not been the driving force behind growing wage inequality.

Perhaps the most important new development is that the real wages of college graduates have begun to fall. From 1989 to 1993 the wages of this group fell 1.2%; the wages of those with education beyond college fell 2.1%. This trend *pre-dates the recession*: the college wage began falling in 1987, two years before unemployment started rising in 1989, suggesting that the fall-off in the college wage reflects longer-term rather than cyclical factors. Moreover, the fact that the share of college-educated workers in the workforce increased slowly from 1987 to 1989 (more slowly than from 1979 to 1987) suggests that it was a slowdown in the growth of demand for educated workers rather than any oversupply that was forcing wages down. This slowdown probably reflects the misfortunes of several white-collar-intensive industries in the late-1980s (finance, banking, insurance, retail stores, and real estate) as well as the shrinking of middle-management—through "restructuring" by large corporations. Since 1990, as Figure 3H and Table 3.18 show, college graduates have not only been losing ground, they have been losing ground at the same rate as workers with less education. Since 1989, college-educated workers have not been gaining in absolute terms and have made little if any gains in relative terms. (This finding is pursued further in the Wage Appendix.)

The pattern of wage growth in the 1970s was far different. In that period the wages of college-educated workers fell sharply—by 8.6%—driven by a surplus of college graduates. Given the sharp drop in the college wage from 1973 to 1979, its modest 2.4% rise from 1979 to 1989 and 1.2% fall over the 1989-93 recession years has meant that the college wage was a remarkable 7.5% less in 1993 than in 1973. In fact, the wages of every educational group fell during this period, suggesting that, had there not been a significant increase in educational attainment since 1973, there would have been an even greater fall in average wages.

Table 3.19 and **Table 3.20** present wage and employment share trends for the various education groups for men and women. Among men, the 1979-89 decline in wages among non-college-educated workers was stronger

TABLE 3.19
Change in Real Hourly Wage for Men by Education, 1973-93
(1993 Dollars)

Year	High School Dropout	High School Graduate	Some College	College	College & 2+ Years
Real Hourly Wage					
1973	$11.85	$14.02	$14.73	$19.41	$22.20
1979	11.58	13.49	14.29	18.10	20.31
1987	9.93	12.24	13.74	18.32	21.48
1989	9.57	11.83	13.41	18.16	22.30
1990	9.23	11.54	13.45	18.16	22.35
1993	8.64	11.19	12.70	17.62	21.71
Percent Change					
1973-79	-2.3%	-3.8%	-2.9%	-6.7%	-8.5%
1979-89	-17.4	-12.3	-6.2	0.3	9.8
1989-93	-9.7	-5.4	-5.3	-2.9	-2.6
1990-93	-6.6	-3.1	-5.6	-3.0	-2.9
1973-93	-27.1	-20.2	-13.8	-9.2	-2.2
*Share of Workforce**					
1973	30.6%	38.1%	15.6%	8.9%	4.5%
1979	22.4	38.6	18.7	11.5	6.1
1989	15.9	38.7	21.0	14.2	7.8

---

* Since the shares of those with one year of schooling beyond college are not shown, the presented shares do not sum to 100. Data for 1993 not available.

Source: Authors' analysis.

than that for women, and the rise in the college wage was a trivial 0.3%. By 1993, the male college wage was $0.48, or 2.7%, below its 1979 level and $1.79, or 9.2%, below its 1973 level. The wage of the average high-school-educated male fell 12.3% from 1979 to 1989, while the wages of those with some college education fell half as much, by 6.2%. The fact that the college wage fell among men but not among women since 1987, even though there was slower growth in the supply of college-educated men than women, suggests a significant slowdown in employer demand for college-educated men. The fact that the wage among college-educated women has continued to grow from 1987 to 1993 despite a continued fast growth in their supply implies a continued growth in the relative demand for more educated women. Note that the college-high school wage differential did not grow between 1990 and 1993 among either men or women.

TABLE 3.20
Change in Real Hourly Wage for Women by Education, 1973-93
(1993 Dollars)

Year	High School Dropout	High School Graduate	Some College	College	College & 2+ Years
Real Hourly Wages					
1973	$7.16	$8.79	$9.89	$13.35	$17.36
1979	7.44	8.81	9.67	11.79	15.35
1987	6.83	8.74	10.15	13.10	16.99
1989	6.64	8.55	10.22	13.27	17.44
1990	6.59	8.50	10.20	13.52	17.20
1993	6.56	8.57	10.19	13.57	17.69
Percent Change					
1973-79	3.9%	0.2%	-2.3%	-11.6%	-11.6%
1979-89	-10.7	-2.9	5.7	12.5	13.7
1989-93	-1.2	0.2	-0.3	2.3	1.4
1990-93	-0.4	0.8	-0.1	0.4	2.8
1973-93	-8.4	-2.4	3.1	1.7	1.9
*Share of Workforce**					
1973	25.4%	47.2%	14.5%	8.8%	2.3%
1979	17.2	46.8	19.6	10.4	3.5
1989	11.2	42.7	23.9	13.8	5.8

---

* Since the shares of those with one year of schooling beyond college are not shown, the presented shares do not sum to 100. Data for 1993 not available.

Source: Authors' analysis.

Even though the wages of college-educated women grew rapidly since 1979, a female college graduate in 1989 still earned less than a man with "some college" education ($13.27 versus $13.41) and less than what a high-school-educated male earned in 1979 ($13.49).

Table 3.21 uses newly available data to present a breakdown of the workforce by the highest degree attained. Only about one-fourth (24.8%) of the workforce has at least a four-year college degree (16.9% have no more than a college degree and 7.9% also have a graduate or professional degree). Roughly two-thirds (67.2%) of the workforce has no more than a high school degree, with 11.1% never completing high school. These data reinforce our earlier discussion that the wage reductions experienced by the "less educated" (frequently defined by economists as those without a college degree) since 1979 affect 75% of the workforce.

TABLE 3.21
Educational Attainment of Workforce, 1993

Highest Degree Attained	Percent of Workforce Men	Women	Total
Less than High School	13.1%	9.0%	11.1%
High School/GED*	54.5	57.8	56.1
Associate Degree	7.2	8.9	8.0
College B.A.	16.8	17.0	16.9
Masters	5.8	6.0	5.9
Professional**	2.6	1.3	2.0
Total	100.0	100.0	100.0
Memo			
High School or Less	67.7%	66.8%	67.2%
Less than College B.A.	74.8	75.7	75.2
College Only	16.8	17.0	16.9
More than College	8.4	7.3	7.9

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* Includes those with some college education, but no degree past high school.

** Includes law degrees, Ph.D.'s, and similar degrees.

Source: Authors' analysis.

Young Workers Have Been Hurt Most

Since 1973, the wages of younger workers have been falling faster than the wages of older workers (**Table 3.22**). As a result, there have been significant changes in the wage differentials between younger and older workers, as earlier shown in Table 3.17. The real hourly wages of workers with 1-15 years of experience fell at least 9% from 1973 to 1993. In contrast, the wages of workers with a minimum of 26 years of experience held relatively steady over the same period. This wage shift against young workers was especially pronounced among men. However, there were sizeable wage losses among every male experience group between 1989 and 1993.

Since the wages of both younger and non-college-educated workers have fallen most rapidly, it follows that the wages of workers who are both young and non-college educated have fallen dramatically. These adverse wage trends were strongest among men. **Table 3.23** presents trends in "entry-level" wages for high school and college graduates as reflected in the wages of workers with 1-5 years of experience. The entry-level hourly wage of a young, male high school graduate in 1989 was 21.8% less than that for the equivalent worker in 1979, a drop of $2.15 per hour, and another 9.7% less by 1993. The accumu-

TABLE 3.22
Change in Real Hourly Wage by Work Experience, 1973-93

	Years of Work Experience							
Year	1-5	6-10	11-15	16-20	21-25	26-30	31-35	35+
All								
1973-79	-1.5%	-3.2%	-2.7%	-4.5%	-2.8%	1.6%	2.3%	4.5%
1979-89	-7.7	-6.6	-4.7	0.1	0.5	-1.7	-1.1	-2.9
1989-93	-7.5	-3.3	-2.0	-3.2	-1.6	0.4	-2.0	-1.6
Men								
1973-79	-1.0	-2.0	-2.2	-2.4	-3.9	1.1	3.2	5.0
1979-89	-12.4	-10.3	-9.6	-4.6	-1.2	-2.4	-1.6	-2.0
1989-93	-8.9	-5.6	-3.8	-6.9	-5.5	-3.1	-4.5	-4.1
Women								
1973-79	-1.0	-0.8	3.6	-1.3	2.5	4.6	4.1	4.2
1979-89	-0.5	2.6	8.3	12.5	11.4	5.9	4.9	2.6
1989-93	-6.0	0.6	1.1	3.4	3.6	7.5	3.7	3.5

Source: Authors' analysis.

TABLE 3.23
Entry-Level Wages and Employment Shares, 1973-93 (1993 Dollars)

	High School Graduates			College Graduates		
Year	All	Men	Women	All	Men	Women
*Entry-Level Hourly Wage**						
1973	$8.82	$10.01	$7.53	$12.55	$13.32	$11.69
1979	8.75	9.88	7.50	12.01	13.32	10.72
1989	7.17	7.73	6.54	12.43	13.07	11.85
1993	6.61	6.98	6.15	11.67	12.28	11.15
Percent Change						
1973-79	-0.8%	-1.3%	-0.4%	-4.3%	0.0%	-8.3%
1979-89	-18.1	-21.8	-12.8	3.5	-1.8	10.5
1989-93	-7.8	-9.7	-5.9	-6.1	-6.1	-5.9
1973-93	-25.0	-30.3	-18.3	-7.0	-7.8	-4.7
*Share of Employment***						
1973	42.7%	39.7%	46.5%	13.8%	13.1%	14.7%
1979	42.7	41.6	44.0	14.8	13.7	16.1
1989	35.8	36.3	35.2	19.0	17.3	20.9
1993	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

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* Wage of workers with 1-5 years of work experience.

**Share of those with 1-5 years of work experience by education level within gender.

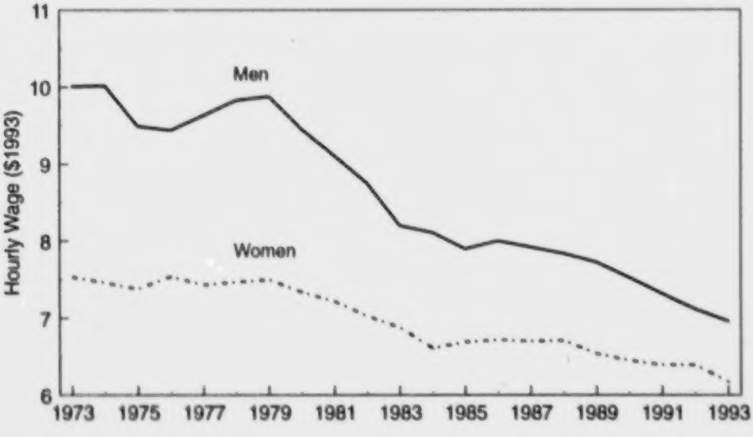
Source: Authors' analysis.

lated wage declines from 1973 forward left entry-level wages for male high school graduates 30.3% lower in 1993 than in 1973; among women, the entry-level high school wage fell a remarkable 18.3%. This dramatic decline in entry-level wages among high school graduates is shown in **Figure 3I**.

Entry-level wages among college graduates have fallen as well. Following the wage decline of the 1970s (due to a surplus in college graduates), the entry-level college wage rose modestly over the 1980s (mostly for women) and then fell rapidly in the early 1990s. By 1993, the entry-level college wage for men and women had fallen 7.8% and 4.7%, respectively, since 1973. The fact that entry-level wages for college graduates have fallen less than for high school graduates in recent years means that it still makes economic sense for individuals to complete college. Nevertheless, those who obtain a college degree will have a lower wage than that obtained by an earlier generation of college graduates.

The post-1979 decline in entry-level wages for male high school graduates occurred among whites, blacks, and Hispanics, as shown in **Table 3.24**. Over the last 20 years, in fact, the entry-level wage of both white and black male high school graduates fell about 30%, or by nearly $3.00 an hour. Per-

FIGURE 3I
Entry-Level Wages for High School Graduates, 1973-93



Source: Authors' analysis.

TABLE 3.24
Change in Entry-Level Wages by Gender and Ethnicity, 1973-93

	Percent Change			
	1973-79	1979-89	1989-93	1973-93
High School Graduates				
Men				
White	-1.1%	-21.6%	-10.0%	-30.1%
Black	0.6	-24.1	-8.4	-30.0
Hispanic	n.a.	-17.1	-9.5	n.a.
Women				
White	-0.3	-12.3	-6.2	-18.0
Black	-4.2	-17.5	-1.3	-22.0
Hispanic	n.a.	-9.5	-4.9	n.a.
College Graduates				
Men				
White	0.4%	-0.9%	-8.2%	-8.5%
Black	n.a.	6.5	4.4	n.a.
Hispanic	n.a.	-16.0	12.6	n.a.
Women				
White	-8.5	9.9	-7.8	-7.3
Black	n.a.	14.6	-12.4	n.a.
Hispanic	n.a.	2.4	2.8	n.a.

Source: Authors' analysis.

haps the surprise here is that the black wage fell proportionately as much as the white wage even though it was lower ($8.85 versus $10.16, in 1993 dollars) in 1973. Entry-level wages for female high school graduates, both black and white, also fell considerably—22% and 18%, respectively—since 1973.

School Quality and Tests

One potential explanation for the poor performance of wages for the noncollege-educated workforce is a deterioration in school quality. Several studies have rejected this explanation on the grounds that a significant growth in wage inequality and in education premiums has occurred in every age group. If "school deterioration" were the driving force behind wage inequality, then one would expect these wage developments to be limited to recent entrants to the workforce and not affect the graduates of the 1970s, 1960s, and 1950s.

Another reason for skepticism is that there is not much evidence of a deterioration in school quality, although there is not much evidence of overall improvement either. **Table 3.25** presents trends in mathematics and reading test scores by ethnic/racial groups and urban (metropolitan) or rural (nonmetropolitan) location. While the test scores of both urban and rural white students have been fairly stable over the last 15 years or so, the test scores of black and Hispanic students have markedly improved. Recall from Table 3.24 that the entry-level wages of high school graduates of each racial/ethnic group fell a great deal—roughly 25%—since 1979. Apparently, then, the wages paid to successive cohorts of high school graduates fell substantially even though their test scores were comparable (for whites) or greatly improved (for blacks and Hispanics).

Table 3.26 shows that there was an equalizing of test scores over the period when wage inequality was expanding. For instance, the math and reading scores of the best test scorers—those at the 80th percentile—were flat over this period. In contrast, test scores grew among the rest of the student population and, in fact, grew the most among the bottom scorers at the 20th and 40th percentiles. Thus, to the degree that test scores reflect knowledge and cognitive abilities, the evidence suggests that "learning" and "school quality" trends should have been leading to better wages among some groups and a lessening of wage inequality.

TABLE 3.25
Test Scores by Ethnicity and Location, 1975-90

	White		Black		Hispanic	
Subject	Urban	Rural	Urban	Rural	Urban	Rural
Mathematics						
1978	307.6	301.4	269.3	262.0	276.5	273.0
1982	306.0	298.0	273.2	264.2	275.9	282.4
1986	309.4	302.3	279.6	279.8	281.8	293.2
1990	311.2	306.0	287.3	290.5	282.0	293.4
Reading						
1975	293.6	290.2	240.0	236.2	249.9	n.a.
1980	294.6	287.3	244.4	234.4	260.4	265.8
1988	297.2	290.8	278.9	256.3	272.8	260.2
1990	299.3	291.7	267.9	258.7	273.4	280.9

Source: Greenberg (1993) analysis of National Assessment of Educational Progress (NAEP) test scores for 17-year-olds.

TABLE 3.26
Test Score Trends by Percentile, 1975-90

Percentile	1978	1982	1986	1990
Mathematics				
20	270.1	270.0	276.5	277.3
40	291.8	289.9	293.2	296.2
60	310.3	307.3	308.7	313.0
80	330.3	326.6	328.3	331.6
	1975	1980	1988	1990
Reading				
20	249.7	251.4	260.3	257.6
40	277.0	276.8	282.4	281.2
60	298.6	297.8	301.4	301.4
80	322.2	320.6	322.9	325.4

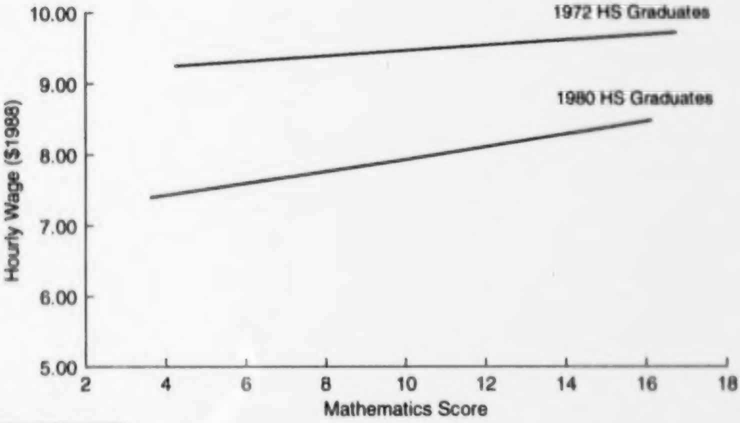
Source: Greenberg (1993) analysis of National Assessment of Educational Progress (NAEP) test scores for 17 year olds.

The reason for the wage deterioration among the non-college-educated workforce is not on the supply side—the number and quality of their ranks—but on the demand side—the lessened ability to find good-paying jobs. This point can be drawn from an analysis of the effect of test scores on male wages, shown in **Figure 3J** and **Table 3.27**. This analysis examined the wages six years after graduation of two cohorts of high school graduates with no post-secondary education. Those graduating in 1972 had their wages in 1978 studied, while those graduating in 1980 had their wages in 1986 studied. The results show the differences in the labor-market experience of graduates only eight years apart in age but facing a different set of job opportunities.

Table 3.27 shows the wages earned by low, average, and high test scorers in each cohort. As the ratio of the wages of high to low test scorers demonstrates, the wage premium for better educational performance grew over the 1978-86 period. That is, high test scorers graduating in 1972 earned only 5% more by 1978 than the low test scorers in their class, but high test scorers graduating in 1980 had a 15% advantage by 1986. This means the wage premium for "skill" grew in the 1980s, paralleling the general increase in the wages of more-educated groups relative to those with less education. This is pictorially displayed in Figure 3J by the fact that the wage-test score line for the graduates in 1980 is steeper than that for the 1972 graduates.

However, it is important to note that the wage-test score line in Figure 3J for

FIGURE 3J
Relationship Between Hourly Wage and Mathematics Score, by Cohort, Six Years After High School Graduation



Source: Murnane et al. (1994).

TABLE 3.27
The Role of Test Scores on Male Wage Structure (1988 Dollars)

	High School Graduates in:*		
	1978	1986	Difference
Average Test Scores in H.S.	10.48	9.87	0.61
Wage After Six Years:			
Low Test Scorers	$9.25	$7.40	$1.86
Average Test Scorers	9.49	7.92	1.56
High Test Scorers**	9.73	8.49	1.24
Ratio, High to Low Scorers	1.05	1.15	
1986 Average Wage at Average Test Score of 1972 Class	—	$7.98	$1.50

---

* The earnings of graduates of 1972 and 1980, six years after graduation.

** Low and high scorers have scores that are one standard deviation below and above average, respectively. The test is a basic mathematics test. Since the results of this test are highly correlated with other tests, the test score should be viewed as a general indicator of cognitive ability.

Source: Authors' analysis of Murnane, Willett, and Levy (1994).

the more recent graduates lies entirely below that of the earlier graduates, reflecting the fact that wages were far lower for recent graduates relative to earlier graduates with comparable scores. As the data in Table 3.27 show, the wages of high test scorers among recent graduates were $1.24 below those that high test scorers from the earlier group achieved at the same point in their earnings trajectory (six years out of school). The wage decline among average scorers was $1.56 an hour. Shockingly, the wage of the high test scorers in the 1980 class, $8.49, was $.76 below that of the low test scorers of the earlier cohort. This can be seen in Figure 3J: the top of the wage-test score line for the more recent graduates is below the *bottom* of the wage-test score line of the earlier graduates. Clearly, being a good student provided no insulation from the adverse labor market facing high school graduates in the 1980s.

Table 3.27 also permits an assessment of the effects of a change in test scores on wages. In these data (which differ from the more comprehensive test-score data presented earlier), the average test score of the recent group, 9.87, was less than that of the earlier group, 10.48. How responsible was this test-score drop for the fact that the more recent graduates earned, on average, $1.56 less an hour than the earlier graduates? The last line estimates what the average wage of the recent graduates would have been had their test scores not fallen. Perhaps surprisingly, the "no test-score drop" wage is only marginally higher than the wage they actually received, $7.98 versus $7.92, suggesting that only $.06 of the $1.56 drop in wages can be attributed to the test-score decline.

The Shift to Low-Paying Industries

There was a large employment shift to low-wage sectors in the 1980s that has continued in the 1990s. This shift is a consequence of trade deficits and deindustrialization as well as stagnant or falling productivity growth in service-sector industries. This section examines the significant erosion of wages and compensation that resulted.

Trends in employment growth by major industry sector are presented in **Table 3.28**. The 18.1 million (net) jobs created between 1979 and 1989 involved a loss of roughly 1.2 million manufacturing and mining jobs and an increase of 19.3 million jobs in the service sector. The largest amount of job growth (14.2 million) was in the two lowest-paying service-sector industries—retail trade and services (business, personnel, and health). In fact, these two industries accounted for 79% of all the net new jobs over the 1979-89 period.

The shift toward low-paying industries has continued into the early 1990s.

TABLE 3.28
Employment Growth by Sector, 1979-93

	Employment (000)			Job Growth (000)		Industry Share of Job Growth		Hourly Compensation
Industry Sector	1979	1989	1993	1979-89	1989-93	1979-89	1989-93	1993
Goods Producing	26,461	25,254	23,256	-1,207	-1,998	-6.7%	-76.0%	$20.22
Mining	958	692	611	-266	-81	-1.5	-3.1	n.a.
Construction	4,463	5,171	4,642	708	-529	3.9	-20.1	19.71
Manufacturing	21,040	19,391	18,003	-1,649	-1,388	-9.1	-52.8	20.09
Durable Goods	12,760	11,394	10,172	-1,366	-1,222	-7.6	-46.5	21.88
Nondurable Goods	8,280	7,997	7,831	-283	-166	-1.6	-6.3	17.75
Service Producing	63,363	82,642	87,269	19,279	4,627	106.7	175.9	15.51
Trans., Comm., Util.	5,136	5,625	5,787	489	162	2.7	6.2	24.07
Wholesale	5,204	6,187	5,958	983	-229	5.4	-8.7	18.12
Retail	14,989	19,475	19,717	4,486	242	24.8	9.2	9.28
Fin., Ins., Real Est.	4,975	6,668	6,712	1,693	44	9.4	1.7	20.27
Services	17,112	26,907	30,278	9,795	3,371	54.2	128.2	16.34
Government	15,947	17,779	18,816	1,832	1,037	10.1	39.4	n.a.
Total	89,823	107,895	110,525	18,072	2,630	100.0	100.0	16.70

Source: Authors' analysis.

In fact, more jobs were lost in goods-producing industries from 1989 to 1993 than over the 1979-89 period. Moreover, 3.4 million jobs were created in the services industry (primarily health and temporary services) in the 1990s, more than the 2.6 million total net new jobs.

The extent of the shift to low-wage industries in the 1980s is more evident in an analysis of changes in the shares of the workforce in various sectors (**Table 3.29**). Several high-wage sectors such as construction, transportation, wholesale, communications, and government increased employment in the 1980s but still had a smaller or similar share of overall employment in 1989 as in 1979. A lower share of employment in these high-wage sectors puts downward pressure on wages. Overall, the share of the workforce working in the low-paying services and retail trade industries was 7.3 percentage points higher in 1989 than in 1979. The parallel trend was the 8.0 percentage-point drop in the share of the workforce in high-paying industries such as manufacturing, construction, mining, government, transportation, communications, and utilities. In the 1990s, the only private-sector industry to expand its employment share was services, which is the

TABLE 3.29
Changes in Employment Share by Sector, 1979-93

	Share of Employment			Change in Employment Share	
Industry Sector	1979	1989	1993	1979-89	1989-93
Goods Producing	29.5%	23.4%	21.0%	-6.1%	-2.4%
Mining	1.1	0.6	0.6	-0.4	-0.1
Construction	5.0	4.8	4.2	-0.2	-0.6
Manufacturing	23.4	18.0	16.3	-5.5	-1.7
Durable Goods	14.2	10.6	9.2	-3.6	-1.4
Nondurable Goods	9.2	7.4	7.1	-1.8	-0.3
Service Producing	70.5	76.6	79.0	6.1	2.4
Trans., Comm., Util.	5.7	5.2	5.2	-0.5	0.0
Wholesale	5.8	5.7	5.4	-0.1	-0.3
Retail	16.7	18.0	17.8	1.4	-0.2
Fin., Ins., Real Est.	5.5	6.2	6.1	0.6	-0.1
Services	19.1	24.9	27.4	5.9	2.5
Government	17.8	16.5	17.0	-1.3	0.5
Total	100.0	100.0	100.0	100.0	0.0

Source: Authors' analysis.

second-lowest-paying industry.

The effect on pay levels of the employment shift toward lower-paying sectors is illustrated in **Table 3.30**. The first column shows the level of pay that would have prevailed in 1989 if the workforce were in the same occupations and industries as in 1980 (the earliest available year for this analysis) but worked at 1989 wage levels. The second column shows the actual pay levels in 1989. The difference between the pay levels in the first two columns thus reflects the change in the industrial and occupational composition of employment between 1980 and 1989. We use the percentage difference between the first two columns as a measure of the effect of changes in the composition of employment on wages, benefits, and compensation. Since there was a shift toward higher-paying *occupations* in this period, this comparison understates the adverse effect of the shift to lower-paying *industries*

TABLE 3.30
Effect of Structural Employment Shifts on Pay Levels, 1980-89

	1989 Pay Levels With Employment Composition of:		Effect of 1980-89 Employment Composition Shift***	
Occupation Group	1980*	1989**	Dollars	Percent
All Workers				
Wages	$12.05	$11.72	$-0.33	-2.7%
Benefits	1.42	1.29	-0.13	-8.8
Compensation	14.79	14.28	-0.51	-3.4
White Collar				
Wages	$13.76	$13.88	$0.12	0.8%
Benefits	1.47	1.42	-0.05	-3.1
Compensation	16.46	16.57	0.11	0.6
Blue Collar				
Wages	$12.10	$11.31	$-0.79	-6.5%
Benefits	1.68	1.50	-0.18	-10.8
Compensation	15.41	14.35	-1.06	-6.9

* March 1989 pay levels using 1980 Census weights corrected for differences between household and employer surveys.

** March 1989 pay levels using current 1989 weights.

*** The effect of changes in the occupation and industry composition of employment.

Source: Authors' analysis.

(which was partially offset by occupational changes).

The change in the composition of employment from 1980 to 1989 led to a 2.7% fall in wages, an 8.8% fall in benefits, and a 3.4% fall in total compensation. White-collar pay levels, except benefits, were only mildly affected by recent compositional shifts. Among blue-collar workers, however, the changing industrial composition of jobs lowered wages and compensation by more than 6%.

The degree to which the employment shift from high- to low-paying industries lowers average pay levels depends on two factors. One is the amount of shifting that occurs; that is, the percentage of the workforce that is shifting out of high-paying sectors. The other is the size of the pay gap between *expanding and shrinking* industries. Both factors significantly increased in the 1980s (**Table 3.31**). For instance, a measure of the rate of struc-

TABLE 3.31
Pay in Expanding and Shrinking Industries, 1948-87 (1987 Dollars)

	1948-54	1954-62	1962-73	1973-81	1981-87
*Annual Rate of Industry Job Shift**	0.91	0.78	0.78	0.80	1.09
Wages and Salaries					
Expanding Industries	$14,938	$13,648	$16,598	$19,144	$19,154
Shrinking Industries	14,204	18,609	16,765	19,058	26,194
Wage Gap**	734	-4,961	-167	86	-7,040
Benefits					
Expanding Industries	$817	$839	$1,603	$2,778	$2,829
Shrinking Industries	951	2,018	2,091	3,672	6,194
Benefits Gap**	-134	-1,179	-488	-894	-3,365
Compensation					
Expanding Industries	$15,753	$14,491	$18,206	$21,921	$21,983
Shrinking Industries	15,156	20,623	18,853	22,732	32,387
Compensation Gap**	597	-6,133	-647	-811	-10,404

---

* The annual percentage points that employment shares among industries are shifting.

** Dollar gap by which pay of expanding industries is higher or lower than pay in shrinking industries. Expanding (shrinking) industries are those whose share of total employment increased (decreased) over the particular time period.

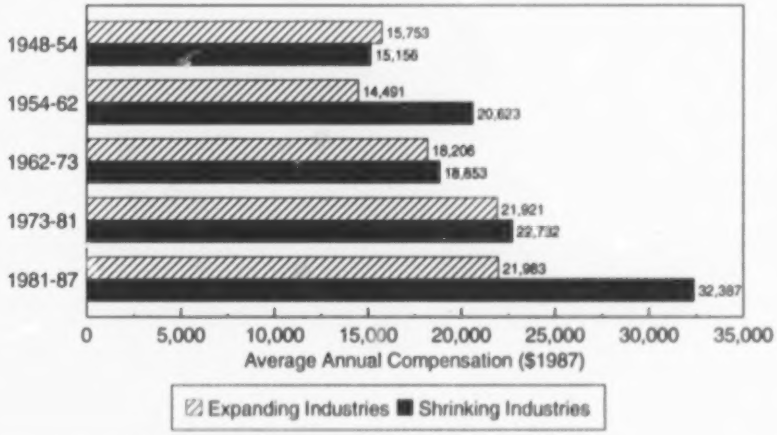
Note: These are the only time intervals for which data are available.

Source: Costrell (1988).

tural shifting in each period shows that there was more rapid shifting in the 1981-87 period than in any other period. The degree of shifting accelerated by 36%, from 0.80 to 1.09 percentage points per year, between the 1973-81 and the 1981-87 periods.

There was also an increase in the pay gap between the expanding and shrinking industries. In the 1981-87 period, the industries where employment contracted paid (in 1987 dollars) 47% more in annual compensation than the expanding industries (**Figure 3K**). This was by far the largest compensation gap between expanding and shrinking industries in the post-war era. The biggest differential was in benefits, with shrinking industries offering more than twice as much in annual benefits.

FIGURE 3K
Pay in Expanding and Shrinking Industries, 1948-87



Source: Costrell (1988).

Trade and Wages

Increased international trade and the emergence of large trade deficits in the 1980s were important factors in slowing wage growth and in reducing the wages of non-college-educated workers. The mechanism by which international trade affects wages is that increased imports (or lower exports) cause certain types of jobs, for example, manufacturing or blue-collar jobs, to be lost or to grow more slowly. Displaced workers or those not hired in manufacturing because of trade pressures then compete with similar workers in other sectors, and usually accept lower wages. The increased competition lowers the wages of many workers not directly affected by fewer exports or greater imports. International trade can also affect the wages of nondisplaced workers in the tradeable-goods sector by forcing wage "restraint" or concessions in order to maintain or improve exports or to deter imports.

This section examines the effect of international trade on the wage structure in recent years. Because all of the ways that international trade affects wages have not been examined by economists, the discussion is necessarily incomplete and *understates* the effect that trade had on wages in the 1980s.

Our analysis looks at imports and exports as representing a certain amount of embodied labor. For instance, an imported car represents the hours worked by employees in the auto industry and its feeder industries. Likewise, an exported airplane represents the domestic workforce in the aerospace industry and its feeder industries. An increase (decrease) in imports (exports) can thus be represented by an increased (decreased) supply of labor competing in the domestic labor market, a factor that can be expected to depress wages. Or, equivalently, greater imports can be considered to lower the demand for domestic labor and therefore depress wages. In line with this analysis, we also consider the effect of greater immigration.

Table 3.32 translates imports and exports into their equivalent supply of labor in various periods from 1967 to 1985. Because the United States had a trade surplus (exports exceeding imports), the net effect of trade flows until the 1980s was to lower the size of the workforce (measured in total hours), albeit slightly. For instance, the fact that the labor embodied in exports in the 1979-81 period (2.75% of work hours) was greater than the labor embodied in imports (2.31% of work hours) had the effect of decreasing the overall labor supply by 0.44%. It is as if 0.44% of the workforce moved abroad to compete with foreign workers, and therefore no longer competed with U.S. workers for jobs. All things being equal, a cut in the domestic labor supply would be expected to raise wage levels.

The growth of imports and the decline in exports over the early 1980s (i.e., the rise of the trade deficit) meant the effect of the trade balance in 1985 was to raise the effective labor force by 1.34%. U.S. trade failures in the early 1980s thus can be characterized as augmenting the labor force by 1.78% (the shift from the 1979-81 period to 1985).

TABLE 3.32
Trade-Induced Changes in Labor Supply, 1967-85*

	Implicit Labor Input Represented by:			
	Percent of Total Work Hours			Percent of Mfg. Hours
Year	Imports	Exports	Trade Balance	Trade Balance
1967-69	1.31%	1.57%	-0.26%	-0.87%
1970-72	1.64	1.69	-0.05	-0.18
1973-75	1.82	2.17	-0.35	-1.39
1976-78	2.06	2.26	-0.20	-0.80
1979-81	2.31	2.75	-0.44	-1.86
1985	3.49	2.15	1.34	6.36
Change, 1979-81 to 1985	1.18%	-0.60%	1.78%	8.22%

---

* Equivalently, these numbers can be viewed as increases or decreases in labor demand.

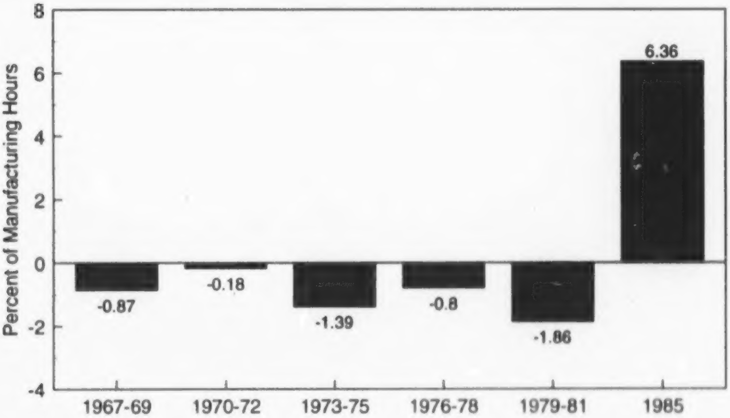
Source: Borjas, Katz, and Freeman (1991).

Of course, trade developments do not fall on all sectors of the workforce equally, but rather impinge directly on the manufacturing workforce. Translating the U.S. trade balance into the equivalent share of the manufacturing workforce (in the last column) shows that the deterioration in the trade deficit was equivalent to increasing the manufacturing workforce by 8.22% (**Figure 3L**). These data indicate that changes in trade flows can have a sizeable effect on the domestic workforce. Furthermore, they consider only the direct effects of trade flows (the loss of steel jobs to steel imports) and not the indirect effects (the loss of iron ore and coal jobs when domestic steel production declines).

Table 3.33 examines the size of the immigrant labor force in total and by education level. Increased immigration in the 1980s increased the immigrant share of the labor force from 7.0% to 9.9% for males and 6.8% to 8.6% for females from 1980 to 1988. Immigrants accounted for 25% of the increase in the labor force over this time period (not shown in the table).

Did the increase in immigration adversely affect particular segments of the native workforce? Table 3.33 shows the share of the immigrant and native workforces at particular education levels. Overall, the native and

FIGURE 3L
Trade-Induced Changes in the Manufacturing Labor Supply, 1967-85



Source: Borjas, Katz, Freeman (1991).

TABLE 3.33
Immigration and Labor Supply, 1980-88

	Distribution of Workers					
	High School Dropout	High School Graduate	Some College	College or More	Total	Immigrant Share of Labor Force
Immigrant Men						
1980	39.6%	22.4%	16.3%	21.7%	100.0%	7.0%
1988	36.0	22.6	16.2	25.1	100.0	9.9
Immigrant Women						
1980	35.7%	30.3%	17.9%	16.0%	100.0%	6.8%
1988	28.3	27.6	21.8	22.3	100.0	8.6
Native Men						
1980	22.7%	37.9%	19.2%	20.2%	100.0%	
1988	15.3	36.0	24.6	24.0	100.0	
Native Women						
1980	18.2%	44.9%	20.9%	16.0%	100.0%	
1988	11.0	40.6	27.6	20.7	100.0	

Source: Borjas, Katz, and Freeman (1991).

immigrant workforces had similar education levels, including the percentage with a college degree. The only striking difference is that immigrants are much more likely to be high school dropouts, a disparity that grew stronger over the 1980s. This suggests that immigration may have adversely affected the wages of high school dropouts relative to college graduates.

Table 3.34 carries forward the analysis of Table 3.32 by translating the overall effect of trade into the effects on the size of (or demand for) the high-school- and college-educated workforce. These data show that the deterioration of the trade deficit from 1980 to 1985-86 raised the size of the high-school-educated workforce by 3.1% and the college-educated workforce by 0.5% (in effect, reducing it by 1.2% rather than 1.7%). This suggests that trade developments had a particularly adverse effect on high-school-educated workers (who are about two-thirds of the entire workforce) absolutely as well as relative to college graduates.

Table 3.35 presents estimates of the effect of trade and immigration developments on the wage differential between college- and high-school-edu-

TABLE 3.34
Effect of Trade on Labor Supply of High-School- and College-Educated Workers, 1980-88

	Trade-Induced Increase or Decrease in Labor Supply*	
Year	High School Equivalents**	College Equivalents**
Share of Workforce		
1980	0.4%	-1.7%
1985-86	3.5	-1.2
1987-88	2.5	-1.5
Change		
1980-85/86	3.1	0.5
1980-87/88	2.1	-0.2

---

* This analysis expresses a trade deficit as an increased supply of workers (i.e., as if those producing imports were augmenting domestic labor supply). Equivalently, these data could be interpreted as reduced demand (positive numbers) or increased demand (negative numbers).

** In this analysis the "high school dropout" and "some college" workforce has been assigned to be either a high school or college equivalent.

Source: Borjas, Katz, and Freeman (1991).

TABLE 3.35
Effect of Trade and Immigration on Education Wage Differential, 1980-88

Item	Time Period 1980-85	 1980-88
Change in College/High School Wage Differential*	10.7% pts.	12.4% pts.
Change in Wage Differential Due to Trade and Immigration with Elasticity**:		
(a) 0.709	2.0% pts.	1.3% pts.
(b) 1.0	2.9	1.9
(c) 0.5	1.5	1.0
Contribution of Trade and Immigration to Change in Wage Differential with Elasticity**:		
(a) 0.709	19%	10%
(b) 1.0	27	15
(c) 0.5	14	8

---

* The differential and effects of trade and immigration are computed as changes in log wages, which approximates percentage or percentage-point changes.

** The "elasticity" gives the percentage change in the college/high school wage differential resulting from a percentage change in the relative supply of college graduates.

Source: Borjas, Katz, and Freeman (1991).

cated workers. The impact on the wage differential depends on two factors. One is the impact of trade and immigration on raising the labor supply of (or lowering the demand for) high-school-educated relative to college-educated workers. The second is the degree to which a given increase in the relative supply of (or decrease in the demand for) high school workers translates into a change in the wage differential. The uncertainty about the size of this second factor—the "elasticity" of the wage differential with respect to relative supplies—motivates the need to examine the effect of trade and immigration using a range of estimates of the "elasticity."

As the first line of Table 3.35 shows, the wage gap between high-school-educated and college-educated workers grew by 10.7 percentage points in the early 1980s and by 12.4 percentage points by 1988. The estimates of the effects of trade and immigration on the change in the wage differential through 1985 range from 1.5 to 2.9 percentage points. Over the longer period the effect is from 1.0 to 1.9 percentage points. Overall, trade and immigration can account for 14% to 27% of the higher differential over the early 1980s or 8% to 15% of the higher differential over the longer period through 1988.

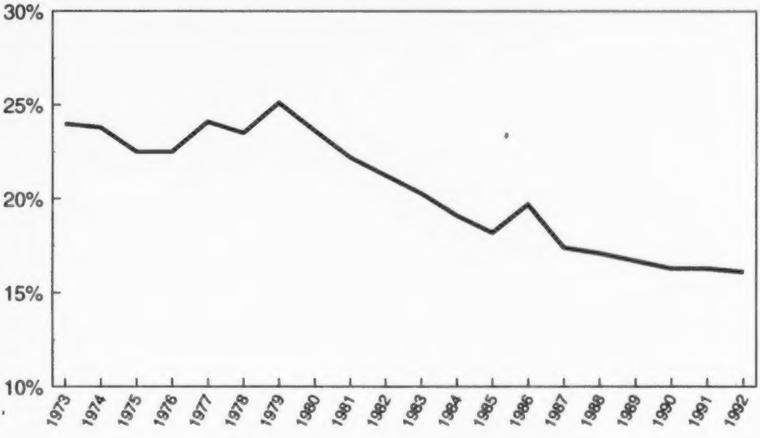
This type of analysis does not incorporate several ways in which trade affects wages, especially for the non-college-educated workforce. For one, the analysis assumes that trade has an effect only to the extent that there is a trade deficit. In fact, international trade can affect the wage structure even with balanced trade if a dollar of imports lowers wages more than a dollar of exports raises them. Likewise, expanding imports and exports equally can lead to greater wage inequality if the composition of jobs generated by exports differs strongly from those displaced by imports. A number of studies, in fact, have documented just such asymmetries between exports and imports. If these are so, then expanding trade with no change in the trade deficit could lead to downward pressure on wages and more wage inequality. Second, this analysis does not allow for changes in the composition of trade, such as increased trade with countries with relatively low wages, to affect the wage structure. Economic theory suggests that trade with lower-wage countries can be expected to put downward pressure on the wages of the non-college-educated workforce. Consequently, the role of trade in recent wage developments is likely to be larger than that indicated by Table 3.35.

The Union Dimension

The percentage of the workforce represented by unions fell rapidly in the 1980s after having been stable in the 1970s, as shown in **Figure 3M**. This falling rate of unionization has lowered wages, not only because some workers no longer receive the higher union wage but also because there is less pressure on nonunion employers to raise wages.

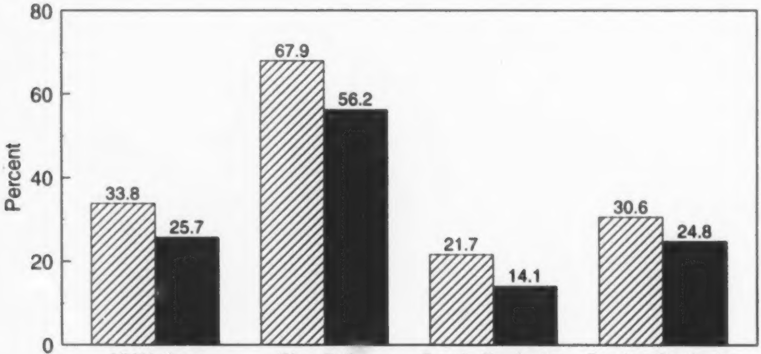
Figure 3N and **Table 3.36** show the union wage premium—the degree to which union wages exceed nonunion wages—by sector, by occupation, and by type of pay (benefits or wages). The union premium is larger for total compensation (33.8%) than for wages alone (25.7%), reflecting the fact that unionized workers are provided insurance and pension benefits that are more than double those of nonunion workers. For blue-collar workers, the union premium in insurance and benefits is even larger: union blue-collar workers receive 157.6% to 278.3% more than their nonunion counterparts. The union wage differential is much higher among blue-collar workers,

FIGURE 3M
Union Coverage, 1973-92



Source: Dinardo, Fortin, Lemieux (1994).

FIGURE 3N
Union Pay Premiums, 1989



Source: Authors' analysis.

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TABLE 3.36
Comparison of Union and Nonunion Hourly Wages and Benefits, 1989
(1989 Dollars)

Occupation or Industry Group	Total Compensation	Wage	Insurance	Pension
All Workers				
Union	$16.47	$14.13	$1.52	$0.76
Nonunion	12.31	11.24	0.72	0.35
*Union Premium:**				
Dollars	$4.16	$2.89	$0.80	$0.41
Percent	33.8%	25.7%	111.1%	117.1%
Blue Collar				
Union	$17.46	$14.82	$1.70	$0.87
Nonunion	10.40	9.49	0.66	0.23
*Union Premium:**				
Dollar	$7.06	$5.33	$1.04	$0.64
Percent	67.9%	56.2%	157.6%	278.3%
Goods-Producing				
Union	$17.84	$15.00	$1.85	$0.89
Nonunion	14.6	13.15	1.04	0.44
*Union Premium:**				
Dollar	$3.18	$1.85	$0.81	$0.45
Percent	21.7%	14.1%	77.9%	102.3%
Service-Producing				
Union	$15.11	$13.25	$1.20	$0.64
Nonunion	11.57	10.62	.62	0.32
*Union Premium:**				
Dollar	$3.54	$2.63	$0.58	$0.32
Percent	30.6%	24.8%	93.5%	100.0%

*The dollar and percent by which the pay of union workers exceeds that of nonunion workers.

Source: Authors' analysis.

and is generally higher within the service than the goods-producing sector.

Table 3.37 presents another set of estimates of the union wage premium using a different data source and methodology. Specifically, the union wage premium is computed so as to reflect differences in hourly wages between union and nonunion workers who are otherwise comparable in experience,

TABLE 3.37
Union Wage Premium by Demographic Group, 1991

	Percent Union*	Union Premiums** Dollars	Union Premiums** Percent
Total	18.2%	$1.71	19.8%
Men	21.3	1.56	18.2
Women	14.8	1.79	20.4
Whites	17.4%	$1.75	20.0%
Men	20.6	1.59	17.9
Women	13.8	1.87	20.9
Blacks	24.4%	$1.49	18.1%
Men	27.7	1.54	19.0
Women	21.2	1.46	17.0
Hispanics	17.7%	$1.77	21.8%
Men	18.6	1.80	21.9
Women	16.2	1.65	20.1

* Union member or covered by a collective-bargaining agreement.

**Union wage advantage controlling for experience, education, region, industry, occupation, and marital status.

Source: Authors' analysis.

education, region, industry, occupation, and marital status. This methodology yields a lower but still sizeable union premium of 19.8% overall—18.2% for men and 20.4% for women. The differences in union wage premiums across demographic groups are relatively small, ranging from 17% to 22%. Hispanic union members tend to reap the greatest wage advantage from unionism, although the black workforce benefits the most, since its rate of unionization, 24.4%, is the highest.

The effect of the erosion of unionization on the wages of a segment of the workforce depends on the degree to which deunionization has taken place and the size of the union wage premium among that segment of the workforce. **Table 3.38** shows both the degree to which unionization declined and the union wage premium by occupation and education level. These data are used to calculate the effect of deunionization over the 1978-88 period on the wages of particular groups and how deunionization affected occupation and education wage differentials.

Union representation fell dramatically among blue-collar and high-school-

TABLE 3.38
Effect of Deunionization on Male Occupation and Education Differentials, 1978-88

A. Effects of Union Decline on Wages*

Group	Union Wage Premium**	Percent Union 1978	Percent Union 1988	Percent Union Change 1978-88	Effect of Union Decline On Wages
By Occupation					
White Collar	1%	18%	13%	-5	-0.1%
Blue Collar	26	47	33	-14	-3.6
Difference					3.5
By Education					
College	-2%	17%	14%	-3	0.1%
High School	16	42	30	-12	-1.4
Difference					1.5

B. Contribution of Deunionization to Higher Wage Differentials*

	(1) Change In Wage Differential 1978-88*	(2) Union Decline Effect on Wage Differential	(3) Higher Differential Explained by Union Decline
White Collar/Blue Collar	7%	3.5%	50%
College/High School	6	1.5	25

---

* Differentials and change in differentials computed in natural log percentage points.

** Controlling for workforce characteristics.

Source: Freeman (1991).

educated workers from 1978 to 1988. Among the high-school-graduate workforce, 12% fewer were unionized in 1988 than in 1978, more than a 25% shrinkage in the unionization rate. Because unionized high school graduates earned 16% more than equivalent nonunion workers, the loss of unionization lowered the average high school graduate's wage by 1.4%. The net effect of deunionization was to increase the college to high school wage differential by 1.5 percentage points.

Deunionization had a larger negative effect on blue-collar wages—lowering them 3.6%—and thus a larger effect on the occupational than the educational wage differential. Less unionization can account for 25% and

50%, respectively, of the higher educational and occupational wage differentials in 1988.

Table 3.39 presents a similar analysis for workforce groups by race, gender, and education level. In 1979, unionization rates were higher among blacks than whites and among men than women. Among men of both races, the decline in unionization was greatest for high school dropouts and graduates. Because of the relatively high unionization rates of black and white female college graduates in 1979, the extent of deunionization among women was sizeable for all educational groups. The effect of deunionization on wages was as high as 6% for white high school dropouts and 5% for black high school graduates. Among men, the pattern of deunionization's impact

TABLE 3.39
Impact of Deunionization on Changes in Average Hourly Earnings, 1979-89

	Percent Union				
Demographic/ Education Group*	1979	1989	Change 1979-89	Union Premium in 1979**	Effect of Union Decline On Wages
White Males					
High School Dropout	48%	24%	-24	24%	-6%
High School Graduate	47	32	-15	10	-1
College or More	24	17	-7	-1	0
Black Males					
High School Dropout	42%	29%	-13	22%	-3%
High School Graduate	56	30	-26	18	-5
College or More	41	42	1	-12	0
White Females					
High School Dropout	27%	11%	-16	14%	-2%
High School Graduate	19	12	-7	11	-1
College or More	35	25	-10	15	-2
Black Females					
High School Dropout	32%	18%	-14	17%	-2%
High School Graduate	43	24	-19	10	-2
College or More	52	28	-24	21	-5

---

* Workers age 25-64.

** Controlling for workforce characteristics.

Source: Blackburn, Bloom, and Freeman (1991).

on wages led to a sizeable increase in the differential between less-educated and more-educated workers.

Table 3.40 examines the effect of lower unionization on workers at various wage levels. The data show that unions have their largest effect on the wages of lower-wage workers, raising the wages of union members in the lowest and second-lowest fifths by 27.9% and 16.2%, respectively. Because workers in the bottom three-fifths have higher unionization rates and higher union wage premiums, the effect of unions on average wages for these groups is largest—increasing the average wage from 4.9% to 6.6%. Thus, unionization is a force that moderates the wage gap between high-wage and middle- or low-wage workers.

Unionization declined more among low-wage than high-wage workers from 1973 to 1987, with unionization actually increasing among the top fifth. The wage impact of this deunionization was to increase the wage gap between high- and low-wage workers.

The data in **Table 3.41**, the results of three studies of the effect of the drop in unionization on overall male wage inequality, show that there was sizeable growth in wage inequality between the 1970s and the late 1980s. Remarkably, all three studies found that lower unionization can account for the same proportion of the higher wage inequality—21%—even though they employ radically different methodologies.

TABLE 3.40
Effect of Unions on Wages, By Wage Fifth, 1973-87

	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Top Fifth	Average
Percent Union						
1973	38.9%	43.7%	38.3%	33.5%	12.5%	33.7%
1987	23.5	30.3	33.1	24.7	17.7	26.4
Change, 1973-87	-15.4	-13.4	-5.2	-8.8	7.2	-7.3
Effect of Union on:						
Union Wage, 1987	27.9%	16.2%	18.0%	0.9%	10.5%	15.9%
Average Wage, 1987	6.6	4.9	6.0	0.2	2.1	4.2
Wage Effect of Deunionization						
1973-87	-4.3%	-2.2%	-0.9%	-0.1%	0.8%	-1.1%

Source: Card (1991).

TABLE 3.41
Effect of Unions on Male Wage Inequality

Item	Wage Inequality 1973-87*	Wage Inequality 1978-88**	Wage Inequality 1979-88***
Early Year	.227	.235	n.a.
Later Year	.284	.269	n.a.
Change in Inequality	.057	.034	.066
Change Due to Lower Unionization	.012	.007	.014
Deunionization Contribution to Total Rise in Inequality	21%	21%	21%

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* Change in variance of log earnings among men age 25-64.
** Change in variance of log earnings among men age 24-66.
*** Change in standard deviation of log earnings among men age 25-65.

Sources: Card (1991); Denardo, Fortin, and Lemieux (1994); Freeman (1991).

An Eroded Minimum Wage

The real value of the minimum wage has fallen considerably since its high point in the late 1960s (**Figure 3O**). The decline was particularly steep and steady between 1979 and 1989, when inflation whittled the real minimum wage (in 1993 dollars) down from $5.66 to $3.90, a fall of 31.1% (**Table 3.42**). The legislated increases in 1990 and 1991 raised the minimum wage, but still left it $1.15 (in 1993 dollars), or 24.9%, less in 1993 than in 1979. The minimum wage's purchasing power in 1993 ($4.25) was 23.7% less than the value of the minimum wage 26 years earlier in 1967.

While a full-time, year-round job at the minimum wage kept a family of three above the poverty line in 1979, the same job would have placed such a family $2,442 *below* the poverty line in 1993 (**Table 3.43**). Even a two-person family dependent on a minimum-wage worker would have been $647 below the poverty line in 1993.

It has been argued that the minimum wage primarily affects teenagers and others with no family responsibilities. **Table 3.44** examines the demographic composition of the workforce earning at or below the minimum wage. In fact, 84.8% of minimum-wage workers in 1991 were adults, suggesting that many of these workers do have economic responsibilities.

TABLE 3.42
Value of Minimum Wage, 1967-93

Year	Current Dollars	1993 Dollars
1967	$1.40	$5.57
1973	1.60	4.90
1979	2.90	5.66
1989	3.35	3.90
1990	3.80	4.20
1991	4.25	4.51
1993	4.25	4.25
Period Averages		
1960s	$1.29	$5.34
1970s	2.07	5.42
1980s	3.33	4.66
1990-93	4.10	4.33
Change (%)		
1967-93		-23.7%
1979-89		-31.1
1979-93		-24.9

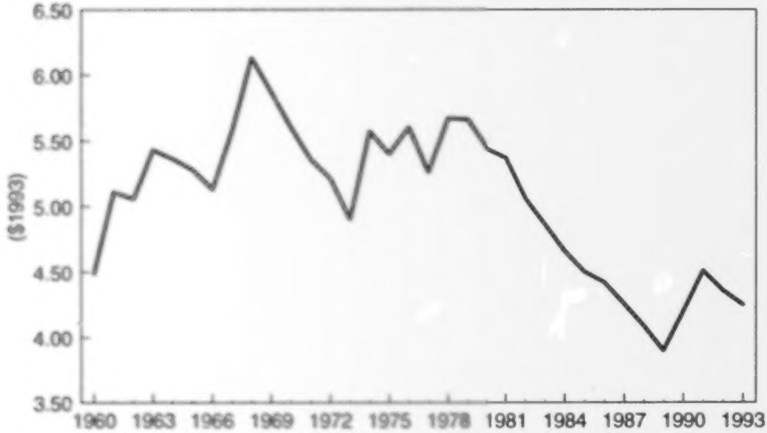
Source: Authors' analysis.

TABLE 3.43
Amount by Which Earnings of a Full-Time, Full-Year Minimum-Wage Worker Are Above or Below the Poverty Line (1993 Dollars)

	Dollar Difference Between Annual Minimum-Wage Earnings and Poverty Line by Family Size		
Year	2-Person	3-Person	4-Person
1967	$1,866	$71	$-3,172
1973	462	-1,333	-4,576
1979	2,053	258	-2,985
1989	-1,606	-3,401	-6,644
1991	-347	-2,142	-5,385
1993	-647	-2,442	-5,685

Source: Authors' analysis.

FIGURE 3O
Real Value of the Minimum Wage, 1960-93



Source: Center on Budget and Policy Priorities.

Although the majority work part-time (less than 35 hours weekly), there were 2.4 million full-time minimum-wage workers in 1991, making up 42.6% of the total. While minorities are disproportionately represented among minimum-wage workers, more than two-thirds of the 5,657,000 minimum-wage workers in 1991 were white. These workers also tend to be women (64.3% of the total).

An analysis of just those earning the minimum wage would be too narrow, however, since a higher minimum wage affects workers who earn more than but close to the minimum—they receive increases when the minimum wage rises. Moreover, any legislated increase would affect those earning below the new rate as well as those somewhat above the new rate through a spillover effect. For these reasons, Table 3.44 also presents the demographic breakdown of those workers who, in 1991, earned at or below the minimum-wage level that prevailed in 1979 ($5.66 in 1993 dollars). This more broadly defined minimum-wage workforce included 16,550,000 workers, or 16.8% of the total workforce. Thus, any significant change in the minimum wage would affect a substantial portion of the workforce. The demographic breakdown of the minimum-wage workforce under this broader

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TABLE 3.44

Minimum-Wage Workforce Demographic Composition, 1991

	At or Below Current Minimum Wage		At or Below Real Value of 1979 Minimum Wage	
Groups	Number of Workers (000)	Percent of Minimum-Wage Workforce	Number of Workers (000)	Percent of Minimum-Wage Workforce
Gender				
Male	2,019	35.6%	6,487	39.2%
Female	3,630	64.3	10,063	60.8
Age				
Teenagers	859	15.2%	2,312	14.0%
Adults	4,796	84.8	14,237	86.0
Race/Ethnicity				
White	3,853	68.1%	11,229	67.9%
Black	878	15.5	2,523	15.2
Hispanic	729	12.9	2,220	13.4
Other	197	3.5	577	3.5
Hours				
Full Time	2,409	42.6%	8,199	49.5%
Part Time	3,248	57.4	8,351	50.5
Total	5,657	100.0%	16,550	100.0%
Minimum-Wage Workforce as Share of Total	5.7%		16.8%	

Source: Authors' analysis.

definition is more inclusive of full-time workers and men but otherwise similar to the narrower definition. Widening the definition of the minimum-wage workforce to include those affected by the minimum but above it—the spillover group—would broaden the demographic composition further.

Table 3.45 examines the degree to which minimum-wage workers live in poor families. The analysis uses three definitions of poverty to present the percentage of low-wage workers living in poor families. One definition (the third in the table) is the conventional definition in which a family is considered poor if its total wages do not exceed the poverty threshold. This definition is inadequate, since many families may have "earnings problems"

TABLE 3.45
Distribution of Wage Earners by Minimum-Wage Status and Family Income, 1989

Distribution by Definition of Poor Family	Percent of Workers in Wage Class in Poor Families*	
	Men	Women
1. *Family Head Earns Poverty Level* ***Hourly*** *Wage*		
Below 1989 Minimum Wage ($3.35)	62.7%	52.2%
Affected by 1990 Minimum Wage ($3.36-3.80)	54.4	40.8
Affected by 1991 Minimum Wage ($3.81-4.25)	50.7	38.1
Above 1991 Minimum	11.6	16.8
2. *Family Head Earns Poverty Level* ***Annual*** *Wage*		
Below 1989 Minimum Wage ($3.35)	64.4%	54.4%
Affected by 1990 Minimum Wage ($3.36-3.80)	56.1	49.6
Affected by 1991 Minimum Wage ($3.81-4.25)	56.2	46.8
Above 1991 Minimum	16.2	22.7
3. *Total Family Annual Wages Below Poverty Level*		
Below 1989 Minimum Wage ($3.35)	46.4%	45.1%
Affected by 1990 Minimum Wage ($3.36-3.80)	38.1	37.4
Affected by 1991 Minimum Wage ($3.81-4.25)	34.3	31.8
Above 1991 Minimum	6.2	9.1

---

* Shows percentage of workers in particular wage ranges living in poor families.

Source: Spriggs (1992).

but have above-poverty incomes because there are multiple workers. The other two definitions of "poor" families identify those families who have "earnings problems" because the family head has either a low hourly wage (the first section in the table) or low annual wages (the middle section). The analysis separately examines the workforce at or below the 1989 minimum wage and those workers who would be affected by the 1990 and 1991 legislated increases.

Using the conventional definition of poverty (the third in the table), the percentage of minimum-wage workers in poor families was 46.4% among men and 45.1% among women. Among workers earning above the 1989 but below the 1991 minimum wage, 30% to 40% were in poor families.

In expanding the definition of poor to include families where the head earns poverty-level wages (either hourly or annually), we see that nearly two-thirds of male and over half of female minimum-wage workers in 1989 were "poor." Also, roughly half of the workforce in 1989 that would be affected by future minimum-wage increases were poor in 1989. These data suggest that the majority of workers affected by the minimum wage live in either poor families or in families where the head has low earnings.

How much did the deterioration of the real value of the minimum wage over the 1980s contribute to greater wage inequality? **Table 3.46** examines the effect of the drop in the minimum wage—from its 1979 real value of $5.66 to just $3.90 in 1989—on observed education wage differentials (in 1989 dollars). This is accomplished by comparing changes in the wage structure from 1979 to 1989 with two alternative scenarios in 1989. The first scenario considers that all of the workers in 1989 earning between the legal minimum wage ($3.35) and the minimum wage if the 1979 real level had been maintained are paid at the higher level. The other scenario—"with spillover"—builds on the first scenario by providing a wage increase to workers in low-wage occupations and industries who are indirectly affected by the restoration of the higher minimum wage. The amount of the spillover effect (67% of the hike from $3.35 to the 1979 real level in 1989 dollars) and the affected group (4.1% of men, 5.3% of women) used in the simulation were identified in a separate study on the minimum-wage spillover effect for young people (those with less than 10 years experience) with no more than a high school degree.

Table 3.46 presents the wage levels of men and women by education level in 1989 from the two simulations of the 1989 wage distribution and the 1979-89 wage change in each case—actual and both simulations. Not surprisingly, the minimum wage is most important to those without a college degree, especially women. Even in the more limited simulation without any spillovers, a higher minimum wage in 1989 would have significantly attenuated the 1979-89 fall in wages for women with high school degrees (a $.06 versus a $.22 fall) or no high school degree (a $.38 versus a $.68 fall). Moreover, the lower minimum accounts for 13% of the higher college/high school wage premium for women and 21% of the growth in the college/less-than-high-school premium. When spillovers are included, a higher minimum wage is found to raise the wages of female high school graduates above their 1979 wage level and to explain about a fourth of the growth of the education premiums. Thus, the reduction of the minimum wage in the 1980s had a substantial effect on the wage levels of "less-educated" women and on the widening of female wage inequality.

TABLE 3.46
Effect of a Minimum-Wage Decline on Wage Differentials, 1979-89 (1989 Dollars)

	Hourly Wage		1989 Wages If 1979 Real Minimum Wage*		Change, 1979-89, at 1979 Minimum Wage			Contribution of Minimum Wage		
	1979	1989	Without Spillover	With Spillover	Actual	Without Spillover	With Spillover	Total	Without Spillover	With Spillover
Men										
Less Than H.S.	$9.49	$8.21	$8.34	$8.40	$-1.73	$-1.60	$-1.54	100%	8%	11%
High School	11.58	10.15	10.22	10.31	-1.43	-1.36	-1.27	100	5	11
Some College	12.27	11.51	11.58	11.58	-0.76	-0.69	-0.69	100	9	9
College	15.53	15.58	15.60	15.60	0.05	0.07	0.07	100	-	-
Differentials (Log)										
College/H.S.	0.294	0.429	0.423	0.414	0.135	0.129	0.120	100	4	11
College/L.T.H.S.	0.447	0.641	0.626	0.619	0.194	0.179	0.172	100	7	11
Women										
Less Than H.S.	$6.38	$5.70	$6.00	$6.07	$-0.68	$-0.38	$-0.31	100%	44%	54%
High School	7.56	7.34	7.50	7.61	-0.22	-0.06	0.05	100	74	124
Some College	8.29	8.77	8.88	8.88	0.48	0.59	0.59	100	-	-
College	10.12	11.39	11.42	11.42	1.27	1.30	1.30	100	-	-
Differentials (Log)										
College/H.S.	0.292	0.439	0.420	0.395	0.147	0.128	0.114	100	13	23
College/L.T.H.S.	0.461	0.692	0.644	0.617	0.231	0.183	0.171	100	21	26

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* Based on simulation of 1989 wage distribution if those earning below the real value of the 1979 minimum wage are raised to its level, except those earning below the legal minimum, who are considered not covered. Two simulations are presented, one with and one without a "spillover effect" of a higher minimum. With the spillover, workers with less than 10 years experience with not more than a high school degree and who work in low-wage occupations and industries are given a proportionate amount (67%) of the minimum-wage increase. The model builds in disemployment effects.

Sources: Authors' analysis and Spriggs and Klein (1994).

The minimum-wage reduction had a lesser but not insubstantial effect on men's wages. When spillover effects are included in the simulations, the drop in the minimum wage over the 1980s accounts for about 11% of the rise in education premiums among men.

These results indicate that the failure to increase the minimum wage during the 1980s was a major, if not *the* major, factor in the widening of the wage structure at the bottom (i.e., the growth of the 50/10 wage differential), especially for women.

The analysis in **Table 3.47** confirms these findings. It uses an entirely different methodology that estimated the effects of a broad array of factors, including supply and demand shifts. The main point of this table is that "institutions matter." Among adult men, the decline of unionism was a leading factor driving wage inequality, accounting for 21% of the increase (as discussed earlier). Among adult women, unionism was a smaller factor, but the minimum-wage decline can explain 29% of the growth of overall wage inequality. More generally, these two institutional shifts together can explain a third of the growth of wage inequality among prime-age workers.

TABLE 3.47
Role of Institutions on Wage Inequality by Demographic Group, 1979-88

	Change in Equality* Effect of:			Percent Contribution to Inequality Growth Effect of:		
Demographic Group	Total Change	Minimum Wage Fall	Union Decline	Total Change	Minimum Wage Fall	Union Decline
Men						
16-24	0.0146	0.0460	-0.0107	100.0	315	-73
25-65	0.0659	0.0069	0.0141	100.0	11	21
Women						
16-24	0.0691	0.0353	-0.0026	100.0	51	-4
25-65	0.0774	0.0225	0.0042	100.0	29	5

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* Inequality measure is standard deviation of log wages. In results not shown, the model estimated the effects of supply and demand factors on wage inequality.

Source: Dinardo, Fortin, and Lemieux (1994).

Technology's Impact

Technological change can affect the wage structure by displacing some types of workers and by increasing demand for others. Given the seemingly rapid diffusion of microelectronic technologies in recent years, many analysts have considered technological change to be a major factor in the recent increase in wage inequality. Unfortunately, because it is difficult to measure the extent of technological change and its overall character (whether it is generally de-skilling or up-skilling and by how much), it is difficult to identify the role of technological change on recent wage trends. More than a few analysts, in fact, have simply assumed that whatever portion of wage inequality is unexplained can be considered to be the consequence of technological change. This type of analysis, however, only puts a name to our ignorance.

It is easy to understand why people might consider technology to be a major factor explaining recent wage and employment trends. We are often told that the pace of change in the workplace is accelerating, and there is a widespread visibility of automation and robotics; computers and microelectronics provide a visible dimension evident in workplaces such as offices that are not usually affected by technology. The economic intuition goes beyond this; research has shown that most recent wage inequality and the employment shift to more-educated workers has occurred within industries and has not been caused primarily by shifts across industries (i.e., more service jobs, fewer manufacturing jobs). Research has also shown that technological change traditionally has been associated with an increased demand for more-educated or "skilled" workers. This pattern of change suggests an increase in "skill-biased technological change" driving large changes within industries.

Because wages have risen the most for groups whose supply expanded the fastest (e.g., college graduates), most economists have concluded that nonsupply factors (i.e., shifts in demand or institutional factors) are the driving force behind growing wage inequality. They reason that those groups with the relatively fastest growth in supply would be expected to see their wages depressed relative to other groups unless there were other factors working very strongly in their favor, such as a rapid expansion in demand. Rapid technological change favoring more-educated groups could logically explain demand-side shifts leading to wider wage differences. However, a technological explanation of wage inequality growth in the 1980s—a rising college wage premium and the growth of within-group wage inequality—

would require that technology's impact in the 1980s be greater than in the 1970s. That is, for a technological explanation to work there must have been an *acceleration* of technology's impact, a "technology shock." After all, technology has had important effects on the workplace for decades.

Is there reason to believe that technology's impact accelerated in the 1980s? **Table 3.48** presents some indicators of technological change. Although overall productivity was greater in the 1980s than in the 1970s (0.6% versus 0.0% annually), there was no dramatic leap in productivity growth. Manufacturing did experience a jump in productivity growth, but the much larger nonmanufacturing sector continued to experience *negative* productivity change.

Capital accumulation, or increased investment per worker, is often considered to be the main mechanism through with technology is brought into the workplace; as employers upgrade their equipment or build new facilities, they frequently incorporate technological advances and new work systems. Yet the growth of equipment per worker was actually slower in the 1980s than in the 1970s, suggesting a deceleration of technological change.

TABLE 3.48
Technology Indicators, 1973-89
(Log Annual Growth)

	Private Sector		Manufacturing		Nonmanufacturing	
	1973-79	1979-89	1973-79	1979-89	1973-79	1979-89
Multi-Factor						
Productivity	0.0%	0.6%	0.5%	2.5%	-0.2%	-0.1%
Investment Per Worker						
Equipment	2.1%	1.7%	3.3%	2.7%	1.6%	1.5%
Computer Equip.	14.2	21.2	15.9	20.6	13.4	21.3
Noncomputer Equip.	2.0	1.2	3.3	2.3	1.5	0.9
R&D Activity*						
Aggregate	0.7%	0.4%	1.3%	1.5%	0.6%	0.3%
Within Industry	0.7	0.9	1.1	1.6	0.4	0.4

* As reflected in changes in the share of scientists and engineers in total employment, multiplied by 10. The aggregate trends reflect changes in the composition of employment across industries (away from R&D-intensive industries) and changes within industries.

Source: Mishel and Bernstein (1994).

However, there was an acceleration in investment per worker in computerized equipment. If computerized equipment has a greater effect on the employment structure than other types of equipment, then a shift in the composition of equipment toward computerization could potentially have created a technology shock in the 1980s. Whether investment trends have led to an accelerated technology impact depends, therefore, on whether computerized equipment had a larger impact than other types of equipment investment in the 1980s.

Another possible explanation for a technology shock is that the employment impact per dollar of investment was greater in the 1980s than the 1970s (i.e., the possibility that investment may have been slower but a more powerful force). These issues are examined in subsequent tables.

Last, aggregate research and development (R&D) activity grew more slowly in the 1980s (see Table 3.48). However, this slowdown was due to the shrinkage of manufacturing, which is the most R&D-intensive sector. Controlling for industry shifts, R&D activity grew somewhat faster in the 1980s and could potentially explain more rapid technological change within industries.

Table 3.49 presents quantitative estimates of the impact of technological change on the rate at which there were within-industry shifts toward the use of more educated workers (i.e., the effect of technology on relative demand within industries). The study from which these data are drawn determined that computerized equipment had no different effect than other types of equipment. Thus, a changing composition of capital investment did not create a 1980s' technology shock. The study, therefore, estimated the effect of R&D activity and equipment accumulation on educational upgrading in each period, allowing the per-dollar impact to vary in each decade. The estimated "impact of technology" reflects new investment, R&D innovations, and any associated technical, work organization, or work-process changes.

The study found that technology did not have a greater impact in more recent years. This can be seen in the results for high school "equivalents" in the last column of Table 3.49, which indicate the degree to which technology led to employment shifts away from workers with high school degrees and toward those with college degrees. Over the 10 years from 1979 to 1989, technology led to a 1.57 percentage-point (.157 times 10) shrinkage in the share of high school workers employed within industries. This technology impact was slightly lower than that found for the 1973-79 period (a 0.167

TABLE 3.49
Technology and Industry-Shift Impact on Educational Upgrading Within Industries, 1973-79 Versus 1979-89 (Annual Percentage-Point Change)

Share of Employment With Education:	Total Change	Between-Industry Shift	Impact of Technology*
Less Than High School			
1973-79	-1.093	-0.049	-0.037
1979-89	-0.656	-0.011	-0.044
Difference	0.437	0.038	-0.006
High School			
1973-79	0.046	-0.077	-0.120
1979-89	-0.003	-0.108	-0.121
Difference	-0.049	-0.031	-0.001
Some College			
1973-79	0.460	0.007	-0.006
1979-89	0.229	0.045	0.017
Difference	-0.231	0.038	0.023
College Only			
1973-79	0.337	0.046	0.134
1979-89	0.277	0.038	0.084
Difference	-0.060	-0.008	-0.050
College or More			
1973-79	0.588	0.120	0.164
1979-89	0.429	0.073	0.149
Difference	-0.159	-0.047	-0.015
High School Equivalent			
1973-79	-0.734	-0.093	-0.167
1979-89	-0.491	-0.053	-0.157
Difference	0.243	0.040	0.009

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* Based on the rate at which equipment accumulation and R&D activity grew and the estimated effect of these factors on educational upgrading in each period.

Source: Mishel and Bernstein (1994).

percentage-point shrinkage per year). Technology's impact did not accelerate in the 1980s (and does not seem to be the factor that drove wage inequality), but it still had a sizeable effect.

Table 3.50 presents results comparable to Table 3.49 but for technology's impact on wage differentials, both gross wage differences and within-group

TABLE 3.50
Technology Impact on Gross and Within-Group Wage Inequality, 1973-89
(Log Annual Growth)

	Gross Wage Differentials		Within-Group Wage Differentials	
	Total Within-Industry Change	Impact of Technology*	Total Within-Industry Change	Impact of Technology*
90/10				
1973-79	-0.203	0.689	-0.131	0.489
1979-89	1.626	0.232	0.816	0.116
Difference	1.829	-0.457	0.947	-0.373
90/50				
1973-79	-0.022	0.036	-0.024	0.003
1979-89	0.920	0.061	0.183	0.067
Difference	0.942	0.025	0.207	0.063
50/10				
1973-79	-0.181	0.653	-0.106	0.487
1979-89	0.706	0.172	0.633	0.051
Difference	0.887	-0.481	0.739	-0.437

---

*Based on the rate at which equipment accumulation and R&D activity grew and the estimated effect of these factors on wage differentials in each time period.

Source: Mishel and Bernstein (1994).

wage differentials (reflecting inequality among workers with similar education and experience). Again, technology's impact was, if anything, smaller in the 1980s than in the 1970s. For instance, technological change in the 1970s was associated with a 0.689 annual percentage-point rise in the 90/10 gross wage differential. In the 1980s, however, technology's effect fell to a 0.232 annual percentage-point rise. Technology had very little impact on within-group wage inequality in the 1980s and thus hardly can be associated with the large growth in within-group inequality during the decade (0.816 percentage points annually in the 90/10 differential). Thus, within-group inequality did not grow because of technologically induced increases in demand for "skills." This result points to a serious weakness in any "increased demand for skills" explanation of growing wage inequality, since the growth of within-group wage inequality that accounts for half the growth of overall wage inequality seems unrelated to technological advances.

Table 3.51 shows that there was a considerable rise in the use of computers at the workplace: the percentage of the workforce using computers at work grew from 24.6% in 1984 to 37.4% in 1989. This increase has affected educational wage differentials, since the most-educated groups are more intensive users of computers on the job and receive a higher wage premium for doing so. For instance, in both 1984 and 1989 a college graduate was at least twice as likely as a high school graduate to use a computer on the job (41.6% versus 19.3% and 58.2% versus 29.3%). Although high school graduates received about 17% extra pay for having computer skills in either 1984 or 1989, the wage premium for computer use among college graduates rose from 20.3% to 23.7%.

The result of differential payment for and differential use of computers on the job has been to widen pay differences between educational groups. This can be seen in the last three columns of Table 3.51, which present the effect of computer use on the average wage of each educational group (based on multiplying the intensity of computer use by the wage premium) in 1984 and 1989 and the change between 1984 and 1989. These data suggest that between 1984 and 1989 the spread of workplace computer technology increased the pay of the average college graduate by 5.4% but of the average high school graduate by just 1.8%, thereby widening the educational pay

TABLE 3.51
Effect of Computer Usage on Wage Structure, 1984-89

	Percent Using Computer on Job		Wage Premium for Computer Use*		Computer Use Average Wage Effect**		Change
Education Group	1984	1989	1984	1989	1984	1989	1984-89
High School Dropout	5.0%	7.8%	15.4%	14.5%	0.8%	1.1%	0.4%
High School Grad.	19.3	29.3	17.0	17.5	3.3	5.1	1.8
Some College	30.6	45.3	18.6	20.6	5.7	9.3	3.6
College	41.6	58.2	20.3	23.7	8.5	13.8	5.4
Post-College	42.8	59.7	22.0	27.0	9.4	16.1	6.7
All	24.6	37.4					

* Wage differential received by workers using computer on the job.
** Effect of computer usage on average wage in educational group.

Source: Authors' analysis of Krueger (1991).

gap by 3.6%. These data thus suggest an important role for technological change and seem to run counter to the findings presented in earlier tables.

However, computer use is only one dimension of technological change, and other dimensions (use of other equipment) may have a countervailing effect (e.g., the slower growth of noncomputer equipment per worker may have led to a lesser overall technology effect). Moreover, since there has always been a wage premium associated with working in capital-intensive industries or with equipment, these findings regarding computers may only partially reflect something new (i.e., other investments in earlier periods generated wage premiums as well). Thus, without a more historical and wider (across other technologies and investment) context, one should be cautious about extrapolating computer-specific effects to reach conclusions about the overall effect of technology.

Executive Pay Soars

Another cause of greater wage inequality has been the enormous pay increases received by top executives and the spillover effects.

The 1980s was a prosperous decade for top U.S. executives. In stark contrast to the declining real wages of average workers, the pay of the chief executive officers (CEOs) of major U.S. companies grew 19% from 1979 to 1989 **(Table 3.52)**. Given the poor performance of the U.S. economy relative to competitor nations in the 1980s, it may be surprising to find that the pay of U.S. CEOs has far outpaced that of CEOs in other countries. The 19% growth in pre-tax pay for U.S. CEOs from 1979 to 1989 was greater than the growth of CEO pre-tax pay of 13%, 17%, and 3%, respectively, in France, West Germany, and the United Kingdom (Table 3.52).

Since tax rates on high-income residents were severely reduced in the United States and the United Kingdom over the last 10 years, changes in pre-tax and after-tax pay differ widely. In Britain, for instance, tax rates for the rich were reduced so much that CEO after-tax pay rose 123% from 1979 to 1989, even though pre-tax pay increased by only 3% (**Figure 3P**). In the United States, after-tax pay of CEOs increased by 66%, more than three times as fast as pre-tax pay and far faster than in Japan, West Germany, or France.

CEOs in the United States are paid roughly twice as much as the CEOs of America's major industrial competitors **(Table 3.53)**. For instance, the average annual compensation of a CEO heading a U.S. firm with at least $100 million of sales was $508,000 in 1988. A comparable executive in Japan made 62% as much; in West Germany, 51%.

TABLE 3.52
Executive Pay Levels, 1979 and 1989
(1989 Dollars)

	Annual CEO Pay (Thousands of Dollars)*					
	Pre-Tax Pay		Percent Change**	After-Tax Pay		Percent Change**
Country	1979	1989	1979-89	1979	1989	1979-89
United States	$308.2	$612.8	19%	$153.9	$429.1	66%
France	119.4	181.7	13	77.5	111.7	7
West Germany	136.2	206.7	17	75.3	112.4	15
Japan	149.3	371.1	22	70.9	178.4	24
United Kingdom	121.2	194.9	3	35.0	122.2	123

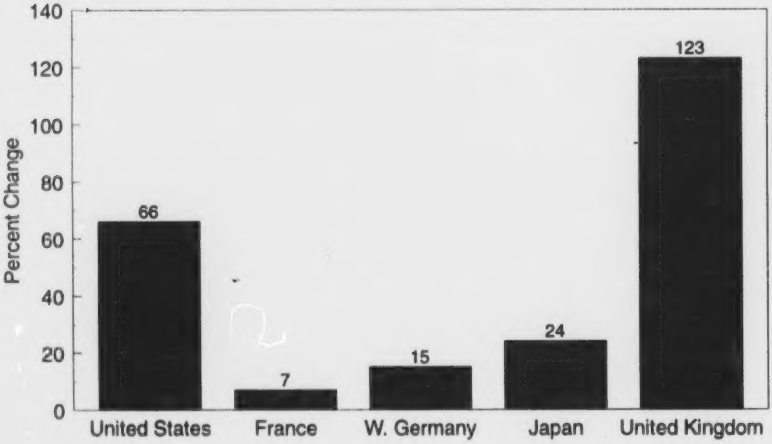
---

* Includes the salaries and capital distributions (such as equity and bonds) for CEOs of firms with sales exceeding $790 million.

** In national currencies adjusted for domestic consumer price increases.

Source: Authors' analysis of *The Economist* (1989).

FIGURE 3P
Real Growth in Executive After-Tax Pay, 1979-89



Source: Authors' analysis.

TABLE 3.53
Comparative Pay Levels of Workers and CEOs, 1988

Country	CEO Compensation*	Compensation Index (U.S. = 100) CEO	Compensation Index (U.S. = 100) Mfg. Worker**	Ratio of CEO to Mfg. Worker Pay***
Canada	$267,000	53	96	9.5
France	255,000	50	99	8.9
Germany	260,000	51	136	6.5
Italy	216,000	43	97	7.6
Japan	317,000	62	98	11.6
United Kingdom	286,000	56	77	12.4
United States	508,000	100	100	17.5

* CEOs of firms with sales exceeding $100 million.

** Using April 1988 exchange rates. Pay is hourly compensation of manufacturing production workers.

*** Assumes CEO works 52 40-hour weeks.

Sources: Towers Perrin (1988) and BLS.

In contrast, the pay of U.S. manufacturing workers was more equal to that of America's major competitors in Canada, France, Italy, and Japan in 1988. However, West German workers in 1988 earned 36% *more* than American workers. Only British workers had significantly lower wages than U.S. workers (see Chapter 8 for further analysis).

The pay gap between CEOs and manufacturing production workers is far larger in the United States than in other industrialized countries (Table 3.53). In 1988, U.S. CEOs were paid 17.5 times as much as manufacturing production workers, a pay gap about twice as wide as in West Germany, Italy, and France, and 50% greater than in Japan.

Increased Black-White Wage Inequality

Another dimension of increased wage inequality is the fall in the pay of black workers relative to white workers. As the top panel (first column) in **Table 3.54** shows, a black worker in 1989 earned 16.4% less than an equivalent (in terms of education, experience, region, and so on) white worker. This black-white earnings gap jumped 50% from 1979 to 1989, from 10.9% to 16.4%. In terms of education, the greatest increase in the black-white earnings gap was among college graduates, with a small 2.5% differential

TABLE 3.54
Black-White Wage Differentials Among Young Workers

		Education Level			Region*		
Year	Total	High School Dropouts	High School Graduates	College Graduates	Midwest	North-east	South
*Black-White Earnings Gap***							
1973	-10.3%	-16.4%	-10.3%	-3.7%	0.8%	-0.4%	-13.9%
1979	-10.9	-17.4	-12.5	-2.5	-2.5	-6.6	-15.8
1989	-16.4	-16.5	-16.7	-15.5	-18.9	-13.8	-16.7
Annual Growth in Earnings Gap (1979-89)							
	-0.6%	-0.2%	-0.5%	-1.6%	-1.4%	-0.8%	-0.2%
*Cause of Increased Racial Earnings Gap****							
Region	-4%	-95%	-12%	7%	0%	31%	-31%
Urban	15	43	21	3	13	7	19
Industry	10	51	10	7	32	18	-26
Occup'n	19	-9	35	19	11	-5	44
Deunion-ization	5	23	10	2	9	14	24
Lower Min. Wage	17	98	27	3	7	4	75
Unexplained	38	0	9	59	28	22	0
Total	100	100	100	100	100	100	100

---

* For high school graduates and dropouts only.

** Based on regression of log hourly earnings on race, schooling, education, region, and metropolitan status (converted to percentage terms) of workers with less than nine years experience.

*** Positive (negative) numbers imply the factor led to a larger (lower) earnings gap between black and white hourly earnings. Each causal factor can lead to a greater earnings gap if black workers become more concentrated in lower-wage parts of the wage structure (e.g., occupations, regions, industries) or if the parts of the wage structure where blacks are concentrated see less wage growth.

Source: Bound and Freeman (1991).

in 1979 exploding to 15.5% in 1989. Regionally, racial inequality rose the most in the Midwest and Northeast and increased only slightly in the South (where substantial racial pay differences persisted).

Table 3.54 also presents information (in the bottom panel) on what factors explain the growth in the overall racial wage gap (shown in the middle panel) and the gap among workers by education and region. Not surprisingly, the causes of rising racial wage inequality differ for the various workforce subgroups. Among the workforce as a whole, the increase in blacks' wage disadvantage arises from the fact that the occupations and cities in which blacks are concentrated had lower wage growth, that blacks became relatively more concentrated in low-wage industries and nonunion settings, and that blacks were particularly disadvantaged by the failure of the minimum-wage threshold to keep up with inflation.

The large increase in the racial gap among college graduates is largely unexplained, except for the concentration of blacks in occupations with low wage growth. The greater racial wage gap in the Midwest is primarily due to an increased concentration of blacks (relative to whites) in nonunion low-wage industries and in occupations with below-average wage growth.

That a sizeable portion of the growth in the racial pay gap remains unexplained suggests that greater, or more potent, discrimination as well as weaker government enforcement of anti-discrimination laws may have played an important role. What we do know is that the racial wage gap widened despite a substantial closing of the racial gaps in educational attainment and educational achievement (as demonstrated in test scores; see Table 3.25).

Small Business, Small Pay

It is frequently claimed that small business creates the bulk of new jobs. These exaggerated claims about small-business job creation have not held up under the scrutiny of careful research. However, the degree to which small business disproportionately creates jobs (beyond what one would expect from the expansion of services and contraction of manufacturing) is not the subject here. This section focuses on the wage and benefit consequences of any shift toward small businesses.

Table 3.55 presents a comparison of wages and benefits of firms of different sizes. These data are based on statistical analyses that control for a variety of demographic and structural factors so that the comparisons reflect a "firm-size effect" and not differences in human capital or occupation or industry composition. The table shows that the smaller the employer the lower the wages and benefits provided to employees. Relative to working in a very small firm (employing fewer than 25), a worker in 1988 would have earned 19.3% more working at a very large firm (employing more than 1,000). Similarly, the larger the firm the more likely it is to offer a pension or health plan to its employees. Unfortunately, the source for this table does not provide information as to whether and how much employers pay for

TABLE 3.55
Wage and Benefit Differences by Firm Size, 1979-88

Firm Employment Size	Firm-Size Wage Premium*		Percent of Firms Offering: Pension Plan**		Health Plan**	
	1979	1988	1979	1988	1979	1988
Fewer Than 25	--	--	30.9%	24.8%	51.5%	60.3%
25-99	1.9%	5.4%	50.1	46.8	69.4	84.7
100-499	8.6	8.2	67.0	57.8	75.9	89.7
500-999	11.8	12.9	77.4	69.9	81.5	94.9
1,000 or More	19.4	19.3	85.2	83.0	82.6	94.1

* Wage premium relative to working in smallest firms, controlling for education, potential experience, race, gender, unionism, marital status, part-time, occupation, industry, and location.

** Percent of firms in size class offering benefit, controlling for factors cited in first note. These data do not distinguish between plans to which employers do or do not contribute.

Source: Belman and Groshen (1994).

these benefits. Other data, however, show even larger firm-size differences in benefit expenditures than that indicated by these data on whether the benefit is merely offered. Table 3.55 also indicates that firm-size wage differentials and health benefit differentials widened slightly between 1979 and 1988 (i.e., the gap between large and smaller firms grew). Employment shifts toward small firms, to the extent they occurred, have been a force lowering the wages and benefits provided to the workforce.

Wage Mobility Shifts Down

The analysis so far has relied on group comparisons over time, such as how the wages in particular occupations, in education groups, or at earnings percentiles have changed from 1979 to 1989. This type of analysis permits us to characterize the wage performance of the labor market. However, these "cross-section" comparisons do not portray the experience of individuals over a time period because any group consists of different people at each point in time, and individuals will likely have changed their position within the group. The analysis of wage trends for individuals, or "wage mobility," needs to be based on longitudinal, or "panel," data that surveys the same individuals for a number of years.

Tables 3.56 and 3.57, which present an analysis of wage mobility for men and women, examine the share of the workforce that experienced wage declines, wage stability (no more than a 5% gain or loss), modest gains (from 5% to 40%), or even larger gains. The analysis compares wage mobility in the 1980s to that of the 1970s.

It is important to note that, on average, individuals can expect to see their wages grow as they gain experience, skills, and seniority and are able to

TABLE 3.56
Male Hourly Wage Mobility, 1970s Versus 1980s

	Percent of Workers			
Time Period*	Loss Greater Than 5%	Stable (Gain or Loss Less Than 5%)	Gain of 5% to 40%	Gain of More Than 40%
All				
1970s	21.5%	7.5%	36.0%	35.0%
1980s	34.0	10.2	28.1	27.7
Blacks				
1970s	20.0	2.6	37.0	40.4
1980s	42.7	5.8	29.2	22.3
Whites				
1970s	21.8	7.8	35.9	34.4
1980s	33.2	10.6	27.7	28.5
Less Than High School				
1970s	23.8	6.5	36.2	33.6
1980s	49.8	12.2	23.5	14.5
High School Graduate				
1970s	19.6	7.4	40.6	32.5
1980s	39.7	11.9	31.6	16.8
Some College				
1970s	18.4	9.9	36.2	35.4
1980s	34.8	9.2	27.2	28.9
College or More				
1970s	22.7	7.5	29.5	40.4
1980s	20.5	8.8	27.8	43.0

* Real wage gains in the 1967-69 to 1977-79 period and the 1977-79 to 1987-89 period.

Source: Rose, NCEP (1994).

TABLE 3.57
Female Hourly Wage Mobility, 1970s Versus 1980s

	Percent of Workers			
Time Period*	Loss Greater Than 5%	Stable (Gain or Loss Less Than 5%)	Gain of 5% to 40%	Gain More Than 40%
All				
1970s	28.9%	7.6%	26.2%	37.3%
1980s	31.4	7.3	28.6	32.7
Black				
1970s	26.9	8.4	26.5	38.2
1980s	30.1	9.0	32.5	28.4
Whites				
1970s	28.9	7.5	26.0	37.6
1980s	31.6	6.9	28.0	33.6
Less Than High School				
1970s	30.7	8.5	21.9	38.9
1980s	40.8	7.3	25.7	26.1
High School Graduate				
1970s	25.2	7.7	29.5	37.6
1980s	32.5	8.7	29.1	29.7
Some College				
1970s	30.4	4.9	21.1	43.6
1980s	31.7	6.8	27.6	33.8
College or More				
1970s	31.3	8.0	27.3	33.4
1980s	24.6	5.8	29.1	40.5

---

* Real wage gains in the 1967-69 to 1977-79 period and the 1977-79 to 1987-89 period.

Source: Rose, NCEP (1994).

move into better jobs. That is, the average wage of workers in their thirties, forties, or fifties can be expected to be significantly higher than it was 10 years earlier when these workers were in their twenties, thirties, or forties. However, around this "average" growth in wages are some whose wages fall and others whose wages rise, as shown in Tables 3.56 and 3.57.

In the 1970s, about a fifth (21.5%) of men saw their wages decline, 36% saw wage gains of up to 40%, and another 35% experienced gains greater than 40%. There was significantly less upward wage mobility for men in the 1980s (the "gainer" groups fell a total of 15.2 percentage points) and significantly more downward mobility: despite 10 years' more experience, over a third (34%) of men experienced more than a 5% reduction in their real hourly wages in the 1980s.

Although wage mobility lessened for white men in the 1980s, the deterioration was more dramatic for black men. Compared to whites there were more black male gainers in the 1970s, but in the 1980s 42.7% of black men suffered a wage loss of over 5%. As might be expected, the downward shift in male wage mobility was greater among those with no more than a high school education. Nevertheless, over a third (34.8%) of those with "some college" experienced a wage reduction over the 1980s.

The shifts in wage mobility patterns among women (Table 3.57) were in the same direction as for men: there was more downward mobility and less upward mobility in the 1980s than in the 1970s, especially for those with no more than a high school education. For women, however, downward shifts in mobility were less severe than for men (e.g., among non-college graduates), and the upward shift among college graduates was stronger.

What Does the Future Hold?

This section examines future trends in wages and job quality by analyzing the projected trends in the key forces that will shape the wage structure—demand (skill requirements), labor-supply factors (education, age, immigration), and various institutional factors, including productivity. We do not attempt to project wages in the future, but our assessment of wage trends in the current recovery and the forces at work over the next decade leads us to believe that wage inequality will continue to grow, perhaps as quickly as it has over the last 15 years. Unless there is a sizeable improvement in productivity growth, as some optimists predict, it is reasonable to expect that real wages will continue to decline for most men and many women, as they have. It seems unlikely that there will be significant improvements in wages in the late 1990s for those groups whose wages have suffered in recent years. That is, we do not expect to see any reversal of the wage trends described in this chapter over the next 10 years.

The first dimension of change we consider is the shift in demand for skills. The greater the increase in employer demand for workers with more skill and education, the greater is the economy's ability to shift people into better-paying jobs (although there is not necessarily a one-to-one relationship between skill and pay).

Some analyses in the late 1980s contended that there would be an explosive growth in the demand for skill in the 1990s. In fact, an analysis of recent trends and future projections suggests that the jobs of the future will not be markedly different than the jobs available today. Future jobs will have somewhat greater educational and skill requirements, primarily the need for basic literacy and numeracy, but the job structure will not shift markedly toward higher-paying jobs. Most importantly, the skill and education requirements of jobs are expected to grow more slowly than they did in the 1970s and 1980s. Despite the widely held assumption that higher-paying white-collar jobs are the wave of the future, there is little evidence that the deterioration of job quality and wages that took place in the 1980s will be reversed in the 1990s, unless current trends change dramatically.

This view of future jobs is based on an analysis of labor-market trends anticipated by the Bureau of Labor Statistics (BLS) in its employment projections to the year 2005. Key to this analysis is the examination of both the continued expansion of white-collar, high-paying *occupations* and the job shift from high-paying to low-paying *industries*. Analyses that focus solely on occupational change, as many do, paint too optimistic a picture.

The data in **Table 3.58** allow us to assess the combined effect of industry shifts (e.g., the rising importance of services) and occupation shifts (e.g., the rising importance of white-collar professional/technical jobs). Specifically, the data show the effect of changes in the distribution of jobs among occupations and industries on the education levels and skills (measured by six indices) required on the job over the last two decades as well as the effects implicit in BLS employment projections.

The analysis in Table 3.58 shows that job-skill requirements have been increasing over the last two decades and are projected to increase over the 1990s and into the next century. Rather than the skills explosion projected by some analysts, however, future growth in skill and education requirements will be historically modest. For instance, the new distribution of jobs across industries and occupations in 2005 will require a worker's average years of schooling to grow at a 0.5% (10-year) rate over the 1990-2005 period, comparable to that of the 1980s (0.4%) but a third of the rate (1.5%) at which education requirements grew in the 1970s. An examination of trends for other measures of skill suggests that the projected growth in skill requirements will be roughly that experienced in the 1980s but less than that of the 1970s.

This analysis corroborates one of our conclusions drawn from the recent

TABLE 3.58
Demand Shifts: Skill and Education Requirements of Jobs, 1970-2005*

	10-Year Rate of Change**		
Job Characteristic	1970-79	1980-90	BLS Projections 1990-2005
Skill Indices			
General Education Development — Language	4.3%	1.8%	1.5%
General Education Development — Mathematics	4.3	2.0	1.3
Numerical Aptitude	1.5	0.7	0.4
Verbal Aptitude	2.3	0.9	0.8
Handling Data	4.1	1.8	1.3
Handling People	2.2	1.1	0.8
Education			
Average Years of Schooling	1.5	0.4	0.5

	Percentage-Point Change		
	1970-79	1980-90	BLS Projections 1990-2005
Shares of Employment Requiring:			
Less Than High School	-1.6%	0.1%	-0.4%
High School Graduate	-1.3	-1.3	-0.7
Some College	0.7	0.4	0.2
College Graduate or More	2.2	0.9	0.9

---

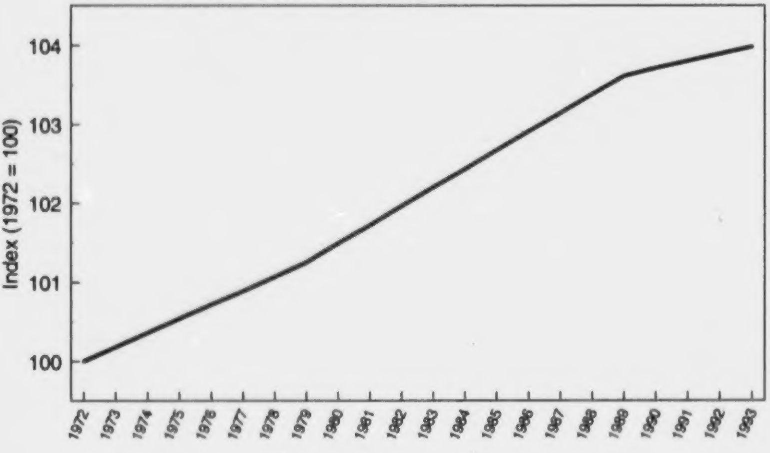
* Based on the effect of industry and occupation employment shifts.

** To facilitate comparisons of these time periods, which are of different length, the data have been converted to 10-year rates of change: the change if the annual rate of change in these time periods had continued for 10 years.

Source: Teixeira and Greenberg (1993).

declines in the pay of white-collar and college-educated workers—the expansion of demand for more "skilled" and more "educated" workers is slowing down. This can also be seen in **Figure 3Q**, which presents an index of the impact of occupational shifts on wage levels. For instance, the chart shows that the cumulative effect of occupational shifts over the 1972-93 period was to raise average wages by roughly 5%. That is, since 1972 the workforce has been shifting into higher-wage occupations, creating a force

FIGURE 3Q
Change in Compensation Due to Occupational Shifts, 1972-93



Source: Authors' analysis.

for higher wages. However, as Figure 3Q shows, the rate slowed in the early 1990s. The ultimate conclusion to be drawn from these analyses is that demand shifts in the future will not be a powerful force for improving overall job quality and pay, absent some change in government policies and employer strategies.

Table 3.59 presents data on future labor-supply trends that affect the wage structure. One major factor is how fast the supply of more-educated workers, or college graduates, will expand. If the supply outpaces the demand for college graduates, then the college premium will fall, creating a tendency toward less wage inequality. The data in Table 3.59 show that college enrollment rates grew in the 1980s (especially for women), presumably in response to the increased economic returns to having a college degree. The Department of Education (using its most optimistic forecast) projects further growth in enrollment rates.

It is important to note that the rate of college enrollment will be growing at a time when the college-age population is shrinking (especially relative

TABLE 3.59
Future Labor-Supply Trends

	1979	1988	2004
College Education			
a. College Enrollment Rate			
Men	20.3%	21.7%	24.7%
Women	17.8	22.5	27.6
b. College-Age Population (000)			
18-24 Years	30,048	26,888	25,747
c. Bachelor's Degrees Awarded (000)			
Men	477	477	635
Women	444	517	719
d. Degrees Awarded as Share of Labor Force			
Men	0.79%	0.71%	0.81%
Women	1.00	0.94	1.02
	1979	**1988**	**2001**
Immigrant Share of Labor Force			
Men	7.0%	9.9%	13.3 - 14.8%
Women	6.8	8.6	10.9 - 13.4
	1980	**1992**	**2005**
Labor-Force Age (Median)	34.7	37.2	40.5

Source: Authors' analysis.

to the size of the labor force, which continues to grow). This offsetting demographic trend will blunt the rise in the number of college graduates entering the labor force as college enrollment rates grow. As Table 3.59 shows, the number of bachelor's degrees awarded annually is expected to rise by 33% (e.g., from 477,000 to 635,000 for men). The growth in the numbers completing college is comparable to the expected growth rate of the labor force, suggesting that new entrants will not be driving up the relative supply of "educated workers." In fact, as Table 3.59 shows, the amount of new college degrees relative to the size of the labor force is expected to be stable over the 1988-2004 period (up slightly for men and women). The fact that the workforce retiring over the next decade is relatively highly educated also means that the process of replacing the retiring cohort with the entering cohort will raise the relative supply of college graduates less than it has over the past few decades (when retirees were educated in the 1920s and 1930s and had relatively low education levels). Overall, then, the supply of college graduates is not likely to be a strong force for restoring a lesser college wage premium and may even be a force for a further growth in wage inequality (if the supply of college graduates does not continue its current expansion).

Immigration trends imply a further growth of immigrants as a share of the labor force. If future immigrants are proportionately less educated, in accordance with recent trends, then future immigration will also serve to depress low-end wages and be a force for a further widening of wage inequality.

The workforce is expected to have a significantly higher age in 2005 than in recent years. The move by the youngest of the baby boomers into their forties and fifties should put upward pressure on average wages (wage trajectories are relatively rapid for these age groups) and may serve to narrow the wage gap between younger and older workers. How powerful a force this will be is uncertain. Note that the age of the workforce grew comparably over the 1979-88 period, when experience differentials actually widened.

Table 3.60 examines additional trends that will affect the wage structure. The expected expansion of international trade's role in the economy (indicated by the share of exports and imports in GDP) and the continued shrinkage of employment in goods production will act to depress wages for the non-college-educated workforce as they have in recent years. Declining union coverage will add further downward pressure on non-college wages. Plus, if the minimum wage does not rise relative to the average wage, as we project, but maintains its real value (or falls), wage inequality will tend to grow at the bottom, especially for women. Overall, the pressure from trade, industry shifts, deunionization, and a falling minimum wage that led to the recent growth of wage inequality will persist in the future with comparable force. In addition, defense production downsizing will create additional downward pressure on non-college wages.

The most optimistic trend is the possibility of higher productivity growth in the future. To the extent that higher productivity leads to higher average-wage growth (they are closely related but, as we have shown, less so than in the past) then wages can be expected to grow more for every type of worker. Put another way, a productivity-related acceleration of average-wage growth can partially offset any further growth of wage inequality.

TABLE 3.60
Future Productivity, Trade, and Institutional Factors

	1979	1989	1992	2005
Trade Share of GDP*	15.7%	22.8%	23.9%	31.5 - 33.4%
Goods Production				
Share of Employment	29.6	23.4	21.4	17.5 - 18.9
Minimum Wage ($1993)	$5.66	$3.90	$4.36	Stable/Down
Union Coverage	25.1%	16.7%	16.1%	Down

Productivity Growth**	1979-89	1992-2005		
		Low	Middle	High
BLS/DRI	0.7%	0.3%	0.8%	1.1%
CBO	0.8	--	0.9	--
Merrill Lynch	0.7	--	1.7	--

---

* The share of exports plus imports in GDP.

**Each source's projections are based on different productivity measures, but are comparable across time periods.

Source: Authors' analysis.

However, it is uncertain whether a faster pace of productivity can be counted on in the future. Most analysts, such as the Congressional Budget Office and the Bureau of Labor Statistics, do not anticipate higher productivity growth (Table 3.60).

One optimistic scenario (from Merrill Lynch) shows future productivity growth nearly 1% faster than that of the 1979-89 period. The basis for this optimism is the somewhat faster productivity growth in 1992 and 1993 and faith that computerization will have a larger productivity payoff in the future than in the recent past. Other analysts discount the recent pickup in productivity as an indicator of future trends because it is not unusual for a period of recovery, especially after the dismal productivity performance before and during the recent recession.

How might a higher productivity trajectory affect wage growth? First, not all of the productivity pickup will translate into higher compensation, according to recent experience, because of the "leakage" of a shift toward unearned or capital income and the "terms of trade" effect discussed earlier (consumer prices increasing faster than output prices). Ignoring this leakage, however, what could be expected? In the 1979-89 period the structure of wage growth produced median wages falling 1% annually for men and growing 0.5% annually for women. If male wage inequality grows at the same pace in the future as it did in the 1980s and early 1990s (which is our guess), then the productivity pickup may allow the median male wage to hold steady (i.e., no real wage growth) rather than continue its 1% decline each year. That is, unless male wage inequality trends slow down, even with a 1% productivity acceleration there will be no reversal of the wage declines suffered during the 1979-93 period by the typical, or median, male worker. This is especially the case if any "leakage" between productivity growth and pay growth occurs.

On the other hand, wage inequality among women may have slowed recently. If this trend persists, then the 0.5% wage gains at the median may accelerate to greater than a 1.5% annual gain if productivity picks up.

To conclude, the forces that drove wage inequality in the past can be expected to have a comparable effect in the future. And if productivity growth persists in its recent (1980s) trajectory, then wages will continue to deteriorate for most men and rise modestly for the top half of women wage earners. More specifically, if current trends (i.e., the 1979-93 trends) persist, then in the next 10 years the median male wage will fall another 10.4% (from $11.24 to $10.07) and the median woman's wage will rise another 4.7% (from $8.79 to $9.21). Entry-level wages for high school graduates, in this scenario, could be expected to fall another 24% among young men (from $6.68 to $5.50) and another 13% among young women (from $6.15 to $5.34).

However, a minority view holds that a productivity acceleration may occur in the 1990s. If so, the median male wage may achieve stagnation but the median women's wage would grow smartly, at a rate over 1.5% per year. Any slowing in the growth of wage inequality would imply faster growth of the median hourly wage.

Conclusion

There have been dramatic changes in the wage structure over the last 14 years. The real hourly wages of most workers have fallen, and the group experiencing the greatest wage decline has been non-college-educated workers, especially new entrants to the labor force. Given that three-fourths of the workforce has not earned a four-year college degree, the continuing deterioration of the wages of high school graduates (whose wages fell somewhat more than those for high school dropouts but somewhat less than those for workers with "some college") means that the vast majority of men and many women are working at far lower wages than their counterparts did a generation earlier. More recently (i.e., since 1987) wages have been falling among college graduates and white-collar workers, especially among men.

The wage trends of the early 1990s, including the recovery since 1991, look very much like the trends of the 1980s. Given this and the fact that the economic forces driving falling wages and increased wage inequality (i.e., deunionization, employment shifts to low-wage service industries, trade liberalization, a faltering minimum wage) are likely to persist in the future suggests hard times ahead for those groups that have already experienced the labor-market difficulties of recent years.

Chapter 4

Jobs: Worsening Underemployment

In late 1992, over a year after the current recovery began, the economy shook off its "jobless recovery" label and began producing jobs at a pace similar to that achieved in earlier recoveries. Yet, despite the historically modest rise in unemployment during the recent recession, the relatively weak expansion has left involuntary part-time work unusually high, and labor-force participation has actually fallen. The heavy reliance on temporary jobs—20% of all private-sector jobs created—is another worrisome dimension of the recovery.

The recent recession differed from other downturns in that the rise in unemployment was more white collar and brought about by more permanent job loss than might have been expected. The sluggish white-collar job creation in the late 1980s and the white-collar nature of the recession signal the end of the service-sector boom of the mid-1980s and the onset of sluggish growth in demand for white-collar and college-educated workers.

The rise of part-time and temporary employment has led to a long-term erosion in economic security, benefits, wages, and opportunities for training and advancement. The increase in these and other types of "contingent" work reflects the kinds of jobs employers want to create rather than any change in preference by the workforce. That is, many people are working in part-time or temporary jobs because they cannot find full-time or permanent jobs.

Low-paying self-employment has also expanded, as has multiple jobholding (reversed, partially, among men in the 1990s) primarily fueled by insufficient wages. The character of employment has decidedly shifted: a much larger proportion of the workforce is either underemployed, overemployed, low paid, or trapped in unfavorable job situations.

Unemployment and Underemployment

Table 4.1 gives a broad view of unemployment rates by gender and race during various peak years in the business cycle since World War II and for 1993, the most recent year for which data are available. In peak years, the economy is at its strongest, and therefore unemployment is at its lowest. In 1989, the most recent cyclical peak year, unemployment in every category was less than or roughly equal to that in 1979, the prior cyclical peak. Relative to 1973 and earlier peak years, however, 1989 unemployment rates are generally above average. The early-1990s recession caused unemployment to rise to as high as 7.7% in mid-1992, and it averaged 6.8% in 1993. In mid-1994 unemployment was still over 6%, significantly above the 5.3% level of the prior peak. (A change in the underlying survey, however, militates against strong comparisons between 1994 and earlier years.)

As has been the case over the post-war period, unemployment among minority workers continues to be more than double that of white workers. Moreover, even at the peak of the last business cycle in 1989, the 11.4% unemployment among black workers was higher than the average unemployment reached in any post-war *recession* (see Table 4.4 below). Women, paralleling the generally more favorable wage growth they have experienced compared to men (discussed in Chapter 3), saw their unemployment rate become almost equal to that of men in 1989 and fall lower than male unemployment in 1993.

TABLE 4.1
Unemployment Rates
(Peak Years and 1993)

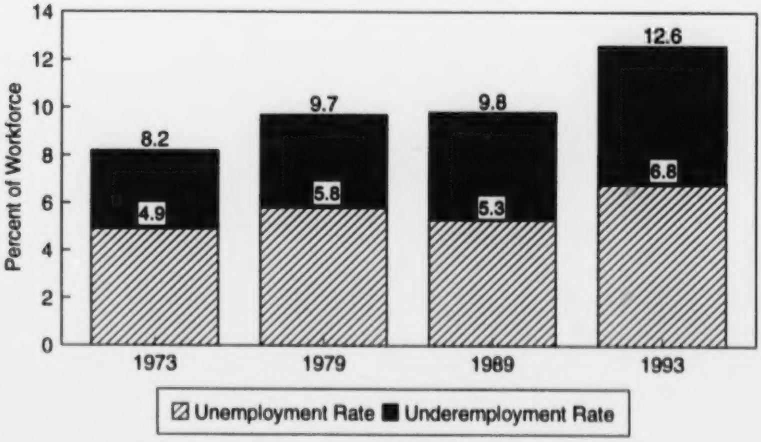
Year	Total	Male	Female	White	Black	Hispanic
1947	3.9%	4.0%	3.7%	n.a.	n.a.	n.a.
1967	3.8	3.1	5.2	3.4%	n.a.	n.a.
1973	4.9	4.2	6.0	4.3	9.4%	7.5%
1979	5.8	5.1	6.8	5.1	12.3	8.3
1989	5.3	5.2	5.4	4.5	11.4	8.0
1993	6.8	7.1	6.5	6.0	12.9	10.6

Source: BLS.

For detailed information on table sources, see Table Notes, page 379.

A broader measure of the lack of employment success in the labor market is the rate of underemployment. This alternative measure includes unemployed workers as well as those working part-time who want to work full-time ("involuntary" part-timers) and those who want to work but have been discouraged by their lack of success ("discouraged workers"). The rate of underemployment was essentially the same at the end of the 1980s recovery in 1989 as in 1979—9.8% versus 9.7%, respectively—despite a somewhat lower unemployment rate (**Figure 4A** and **Table 4.2**). The 1989 underemployment rate was substantially higher than the 5.3% unemployment rate primarily because of an increased rate of involuntary part-time work, a phenomenon discussed below; it was also significantly higher than the underemployment rate of 8.2% in 1973. Underemployment in 1993 was still one-fourth greater than in 1989 (12.6% versus 9.8%).

FIGURE 4A
Real Rates of Underemployment, 1973-93



Source: Authors' analysis.

TABLE 4.2
Rates of Underemployment,* 1973-93

	1973	1979	1989	1993
Civilian Labor Force (000)	89,429	104,962	123,869	128,040
Unemployed	4,365	6,137	6,528	8,734
Discouraged Workers	689	771	859	1,129
Involuntary Part-Time	2,343	3,373	4,894	6,348
*Total Underemployed (000)**	7,397	10,281	12,281	16,211
*Rate of Underemployment***	8.2%	9.7%	9.8%	12.6%
Unemployment Rate	4.9	5.8	5.3	6.8

* Unemployed, discouraged, and involuntary part-time.
**Total underemployed workers divided by the sum of the labor force plus discouraged workers.

Source: Authors' analysis.

Unemployment and the Earnings Distribution

A slowing of the economy and the associated rise in unemployment disproportionately affects the bottom 60% of families. This effect can be seen in **Table 4.3**, which captures the effect of a 1% increase in unemployment on the number of weeks unemployed and employed in a year and on annual earnings for families in each income group (estimated over the 1967-91 period). The last column shows the effect of a 1% rise in the unemployment rate on the "average" family; among all persons, an extra 0.46 weeks of unemployment means 0.62 fewer weeks of work and $457, or 1.7%, less in annual earnings.

The disparate impact of unemployment among different income groups is most apparent for weeks unemployed among household heads (Table 4.3): an overall 1% increase in unemployment leads to a half a week (0.49) more unemployment among household heads in the lowest income group.

The total impact of unemployment on families also depends on how other earners in the family besides the household head are affected. Since low-income households tend to have fewer earners, the impact of rising unemployment on "other adult workers" is not as great as it is for upper-income groups, where two-earner families are more prevalent. Thus, the effect of higher unemployment on "all persons" is not as unequal as for household heads. Nevertheless, unemployment more adversely affects middle- and

TABLE 4.3
Effect of Higher Unemployment Rate on Weeks Unemployed and Employed and on Annual Earnings, 1967-91

	Lowest Fifth	Second Fifth	Middle Fifth	Fourth Fifth	Highest Fifth	All
Weeks Unemployed						
Household Head	0.49	0.33	0.23	0.15	0.06	0.25
Other Adults	0.13	0.16	0.22	0.27	0.25	0.21
All Persons	0.63	0.50	0.45	0.42	0.31	0.46
Weeks Employed						
All Persons	-0.51	-0.89	-0.61	-0.57	-0.46	-0.62
Annual Earnings ($1991)						
Household Head	-$75	-$334	-$292	-$278	-$435	-$288
Other Adults	-5	-29	-89	-232	-488	-169
All Persons	-80	-362	-381	-511	-924	-457
Annual Earnings (%)						
All Persons	-3.7%	-3.7%	-1.8%	-1.4%	-1.4%	-1.7%

Source: Blank and Card (1993).

low-income families relative to the best-off families.

Table 4.3 also shows that, as unemployment rises, there is an even greater fall in weeks worked, the consequence of people withdrawing from the labor force. For instance, a 1% rise in the unemployment rate increases weeks unemployed by 0.46 but leads to 0.62 fewer weeks worked.

Finally, Table 4.3 shows the earnings lost to each income group as unemployment grows. Although better-off families lose more money than middle- or lower-income families, on a percentage basis the reduction in earnings is disproportionately greater in lower-income families.

The Early-1990s Recession

The recession of the early 1990s differed from prior post-war recessions in that, when it ended (as signaled by output beginning to rise rather than fall), there was a considerable lag before employment started growing. In fact, unemployment continued rising for 15 months after overall output started growing (i.e., after the first quarter of 1991). Although employment always tends to "recover" later than output, the delay was exceptionally long, giving rise to the label "jobless recovery." For this reason, our analysis examines the character of the recent downturn by looking at trends from the peak of the prior cycle (second quarter 1990) to the official recession trough (first quarter 1991), which is the "output trough," and to the unemployment trough (second quarter 1992), when unemployment stopped rising. When looking at the character of unemployment in the recent recession it makes sense to examine the period of growing unemployment—the peak to the "unemployment trough." However, the overall character of the downturn is best analyzed by looking at the economic output cycle—the peak to the "output trough."

The early-1990s recession differed from earlier post-war recessions in several ways. For one, even though unemployment rose less in the recent recession (at most 2.2%, relative to a 3.3% or 3.4% rise in the early 1980s or mid-1970s recessions), there was an equivalent growth in permanent job loss **(Table 4.4)**.

TABLE 4.4
Changes in Unemployment in Post-War Recessions

Recessions: Beginning and Ending Quarter	Unemployment Rate		Changes in Unemployment by Cause:			
	Peak	Trough	All Unemployment	Permanent Job Loss	Other Reasons*	Duration of Contraction
1948:4-1949:4	3.8%	7.0%	3.2%	n.a.	n.a.	11 months
1953:3-1954:2	2.7	5.8	3.1	n.a.	n.a.	10
1957:3-1958:2	4.2	7.4	3.2	n.a.	n.a.	8
1960:2-1961:1	5.2	6.8	1.6	n.a.	n.a.	10
1969:4-1970:4	3.6	5.8	2.2	0.9%	1.3%	11
1973:4-1975:1	4.8	8.2	3.4	1.3	2.1	16
1980:1-1980:3	6.3	7.7	1.4	0.6	0.8	6
1981:3-1982:4	7.4	10.7	3.3	1.7	1.6	16
Average of prior recessions	4.8	7.4	2.7	--	--	11
*Recent Recession***						
1990:2-1991:1	5.3	6.5	1.2	1.0	0.2	8
1990:2-1992:2	5.3	7.5	2.2	1.6	0.6	23

* Includes unemployment due to temporary layoffs or quits and to new entrants or reentrants who have not yet found work.

** Because the employment upturn lagged far behind the output upturn, the analysis examines the downturn from the prior peak (1990:2) to the output trough (1991:1) and to the unemployment trough (1992:2).

Source: Authors' analysis.

What is the difference between permanent job loss and unemployment? In government statistics unemployed people are defined as those who are without a job and have looked for work in the last four weeks. Therefore, someone could be unemployed because of a job loss (either a permanent or a temporary layoff) or because she/he has been unsuccessfully looking for work after completing school (an "entrant"), after a spell out of the labor force (a "re-entrant"), or after quitting a job (a "quit"). So, the relatively large 1.6% increase in the unemployment of those who permanently (rather than temporarily) lost their jobs suggests that the recent recession involved as much job loss as prior recessions (as measured against the unemployment trough).

Was the demographic and occupational composition of unemployment different in the recent recession? There has been some discussion, for instance, of a "white-collar" recession. There is some truth to this characterization, since the white-collar unemployment rate rose by an above-average amount. Still, blue-collar workers were more deeply hurt by the recession: unemployment among blue-collar operatives and laborers rose by 2.8% (to the unemployment trough), far more than the 1.7% rise in unemployment among technical, sales, and administrative workers (**Table 4.5**).

Moreover, the unemployment rate among white-collar workers at the unemployment trough of the recession (1992:2) was lower than the unemployment rates among blue-collar workers at the cyclical peak (1990:2). The same comparison could be made of workers by race/ethnicity—recession levels of white unemployment (6.5%) were still far below the unemployment among blacks (10.6%) or Hispanics (7.6%) at the prior cyclical peak.

Nevertheless, trends in employment and unemployment by occupation in the recent recession confirm the unusually white-collar character of the downturn (**Table 4.6**). The absolute rise in unemployment from the peak to the unemployment trough (1992:2) was greater among white-collar (1,131,000) than among blue-collar workers (1,005,000), which is unusual given that blue-collar unemployment rose more than twice as much as white-collar unemployment in all but one prior recession (Table 4.6). The greater rise in white-collar unemployment reflects the increased dominance of white-collar employment (57% of the total in 1990), the above-average rise in the white-collar unemployment rate, and the growth of unemployment in services nearly as high as in manufacturing (Table 4.5).

A unique aspect of the recession, however, was the modest growth of white-collar employment. Over the eight quarters of the peak-to-unemploy-

TABLE 4.5
Change in Unemployment Rate by Occupation, Gender, Race, and Industry, 1990-92

Group	Peak 1990:2	Output Trough 1991:1	Unemployment Trough 1992:2	Change from Peak to:* Output Trough 1991:1	Change from Peak to:* Unemployment Trough 1992:2
All	5.3%	6.5%	7.5%	1.2%	2.2%
Occupation					
Managers, Prof.	2.1%	2.6%	3.2%	0.5%	1.1%
Tech., Sales, Admin.	4.0	4.9	5.7	0.9	1.7
Craft	5.3	7.5	8.8	2.2	3.5
Operatives & Laborers	8.4	10.9	11.2	2.5	2.8
Gender					
Adult Men	4.7%	6.1%	7.2%	1.4%	2.5%
Adult Women	4.7	5.5	6.3	0.8	1.6
Race/Ethnic					
White	4.6%	5.8%	6.5%	1.2%	1.9%
Black	10.6	12.1	14.5	1.5	3.9
Hispanic	7.6	9.7	11.2	2.1	3.6
Industry					
Construction	10.5%	14.7%	17.0%	4.2%	6.5%
Manufacturing	5.5	7.1	7.9	1.6	2.4
Services	5.0	6.0	6.9	1.0	1.9

---

* Because the employment upturn lagged far behind the output upturn, the analysis examines the downturn from the prior peak (1990:2) to the output trough (1991:1) and to the unemployment trough (1992:2).

Source: Authors' analysis.

ment-trough downturn, white-collar employment grew by only 606,000, far less than the 827,000 growth over just five quarters in the prior recession (Table 4.6). White-collar employment actually fell 320,000 during the official downturn (to 1991:1). This slow growth in white-collar jobs signals the end of the service-sector boom of the 1980s and likely is responsible for the recent fall-off in wages among white-collar and college-educated workers (see Chapter 3).

Data from special Bureau of Labor Statistics surveys of workers permanently displaced from their jobs over various five-year periods confirm the

TABLE 4.6
Changes in Employment and Unemployment in Recessions by Occupation

Recessions: Beginning and Ending Quarter	Change in Employment (000)		Change in Unemployment (000)	
	White Collar	Blue Collar	White Collar	Blue Collar
1960:2-1961:1	764	-1,142	210	592
1969:4-1970:4	695	-737	516	971
1973:4-1975:1	871	-2,004	765	1,903
1980:1-1980:3	721	-1,557	253	1,013
1981:3-1982:4	827	-2,583	826	2,124
*Recent Recession**				
1990:2-1991:1	-320	-927	542	748
1990:2-1992:2	606	-1,504	1,131	1,005

---

* Because the employment upturn lagged far behind the output upturn, the analysis examines the downturn from the prior peak (1990:2) to the output trough (1991:1) and to the unemployment trough (1992:2).

Sources: Meisenheimer et al. (1992) and authors' analysis.

acceleration of white-collar displacement in the early 1990s. For instance, there has been as much job destruction in the early 1990s as in the much-deeper early-1980s recession, and there was a much greater rate of job loss among white-collar workers in the early-1990s recession. As **Table 4.7** shows, 12.3 million workers permanently lost their jobs over the 1987-91 period. In contrast, nearly 1 million fewer workers were permanently displaced over the 1979-83 period. The greater number of permanent job displacements in recent years is more than accounted for by the 50% greater job losses among white-collar workers in the most recent period (5.7 million) than the earlier period (3.8 million). More than a million more professional and managerial workers and 864,000 more technical, sales, and administrative-support workers lost their jobs over the 1987-91 period than over the 1979-83 period. This greater job loss among white-collar workers occurred in every type of major white-collar occupation, but was most pronounced among managers, executives, and administrators and among administrative-support and clerical workers (**Table 4.8**). In contrast, the rate

TABLE 4.7
Amount of Worker Displacement, 1979-91

Time Period	White-Collar Displacement (000)* Total White-Collar	Managers and Professionals	Technical, Sales, and Administrative	Total Displacements (000)
1979-83	3,775	1,133	2,642	11,474
1981-85	4,181	1,656	2,525	10,837
1983-87	4,350	1,537	2,813	9,722
1985-89	4,202	1,588	2,614	9,170
1987-91	5,699	2,193	3,506	12,293

---

* Workers experiencing permanent job loss due to a facility closing, job elimination, or slack work.

Source: Authors' analysis.

TABLE 4.8
Number and Rate of Displacements in Early-1980s and Early-1990s Recessions

	Total Displaced Workers* (000)		Displacement Rate**	
	1979-83	1987-91	1979-83	1987-91
White Collar	3,775	5,699	7.3%	8.9%
Managers	879	1,406	8.4	9.5
Professionals	604	787	4.9	5.1
Technicians	295	388	10.0	10.8
Sales	1,100	1,325	10.8	10.6
Administrative Support	1,247	1,792	8.0	10.2
Non-White Collar	7,699	6,594	18.6	14.1
Total	11,474	12,293	12.3	11.1

---

* Workers experiencing permanent job loss due to a facility closing, job elimination, or slack work.

** Number of displaced workers as a percent of midpoint employment levels.

Source: Authors' analysis.

of job displacement among the non-white-collar workforce (i.e., blue-collar and service occupations) shrank from 18.6% in the earlier period to 14.1% more recently.

Being unemployed was a bigger financial hardship in the 1980s and 1990s than in the 1970s. As **Table 4.9** shows, in 1990 and 1991 only about 40% of the unemployed received unemployment insurance, a substantial drop from the financial protection available in the 1975 and 1976 recession years, when 76% and 67%, respectively, of the unemployed received unemployment insurance. In 1992, however, the proportion of the unemployed receiving benefits rose to 51%, a better "coverage" than was the case in the 1980s and earlier in the 1990s. The increase was brought about by legislation passed in late 1991 that provided unemployment insurance to the long-term unemployed.

Because of changes in the laws and in the administration of unemployment insurance at both the federal and state levels, unemployment insurance provided a weaker safety net in the 1980s downturn than in the 1970s.

TABLE 4.9
Proportion of the Unemployed Who Receive Some Unemployment Insurance Payment

Year	Percent of Unemployed Receiving Benefits	Unemployment Rate
1960	54%	5.5%
1967	43	4.9
1973	41	5.8
1975	76	8.5
1976	67	7.7
1979	42	5.8
1982	45	9.7
1983	44	9.6
1989	33	5.3
1990	37	5.5
1991	42	6.7
1992	51	7.4

Source: Center for Budget Policies and Priorities (1993).

The Jobless Recovery

In order to assess the character of the early 1990s recovery (through its 38th month), **Table 4.10** presents the trends of key labor-market indicators for the current recovery and the average of the five prior post-war recover-

TABLE 4.10

Comparison of Recent Cycle to Earlier Post-War Business Cycles

Indicator*	Early 1990s Cycle**	Average of Prior Cycles***
Payroll Job Growth		
Downturn	-1.8%	-3.3%
Recovery	1.4	3.3
Net Gain	0.8	1.8
Civilian Employment Growth		
Downturn	-1.5%	-1.4%
Recovery	1.2	2.6
Net Gain	0.8	1.8
Involuntary Part-Timer Share of Workforce		
Downturn	0.9% pt.	1.5% pt.
Recovery	-0.3	-1.3
Net Gain	0.6	0.2
Unemployment Rate		
Downturn	1.4%pt.	3.2%pt.
Recovery	-1.1	-2.6
Net Gain	0.3	0.6
Civilian Labor Force Growth		
Downturn	0.7%	1.9%
Recovery	0.8	1.8
Net Gain	0.8	1.8
Labor Force Participation Rate		
Downturn	-0.1% pt.	0.3% pt.
Recovery	-0.4	0.6
Net Gain	-0.5	0.9

* The data are annual growth rates, except the unemployment and part-time data, which are percentage-point changes (not annualized). Old and new CPS data are "bridged."

** The output trough is used because the business cycle and not the nature of the unemployment in the cycle is being characterized.

*** Recessions starting in July 1981, November 1973, December 1969, April 1960, July 1953, and November 1948.

Source: Authors' analysis.

ies (that lasted at least 38 months). More specifically, the trends over the cycle are presented over three time frames: the first, from the peak to the ("output") trough, shows the "depth" of the downturn; the second, from the trough to the 38th month, shows the strength of the recovery; and the third, the change from the prior peak to the 38th month, shows the degree to which the labor market recovered relative to its prior peak.

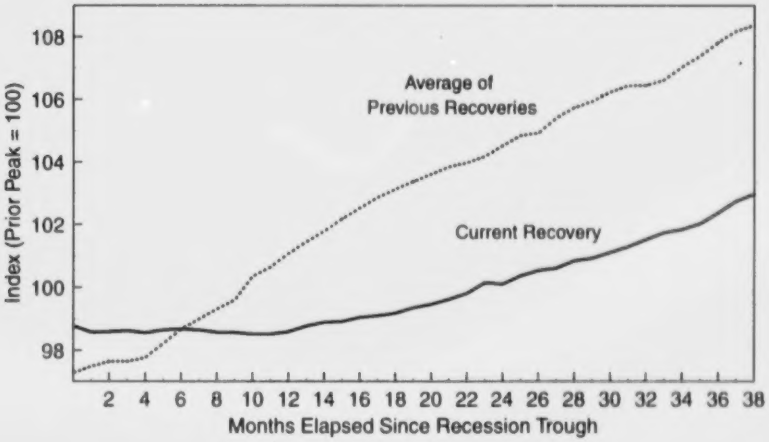
The recent downturn was a historically moderate fall in terms of several key labor-market dimensions. Payroll jobs fell less than in other recoveries (an annual drop of 1.8% versus 3.3%), and, as we have seen, there was relatively modest growth in unemployment. (Even to the unemployment trough the increase was 2.2%, about two-thirds the growth in other downturns.) Involuntary part-time work also rose modestly in the recession, rising 0.9 percentage points rather than the post-war average of 1.5 percentage points.

Table 4.10 also indicates that the recovery has been weak in terms of job growth, with the rate of job creation only 30% or 46% that of prior job growth in payroll and civilian employment, respectively. **Figure 4B** charts the cumulative percentage job growth in the current recovery and the average of other post-war recoveries. In earlier recoveries employment returned to its prior peak 10 months into the recovery. In contrast, as Figure 4B shows, there was no job growth for the first year or so of the current recovery, and it took almost two years for employment to "recover."

But how has employment growth fared once job growth finally kicked in? According to Figure 4B, there has been steady job growth after the 12th month, but not necessarily any faster than what occurred in other recoveries. (Note that the two lines are roughly parallel after 12 months.) That is, once job growth commenced, there has been steady job growth at the same pace as in prior recoveries. Because of the weak employment growth in the early part of the recovery, however, the job growth between the prior peak and the 38th month of the recovery has been at a 0.5% or 0.8% growth rate (depending on the measure), far less than the historical average rate of 1.8%.

The recovery has also failed to substantially reduce involuntary part-time work. Even though there was a historically small rise of involuntary part-time work in the downturn (up 0.9% rather than 1.5%), the smaller drop in the recovery (-0.3% versus -1.3%) meant that by the 38th month there were 0.6 percentage points more involuntary part-time workers than at the prior peak. In contrast, by the 38th month of other recoveries, involuntary part-time work had nearly returned to the rate of the prior peak, or only 0.2% higher.

FIGURE 4B
Employment in the Current Recovery vs. Previous Recoveries

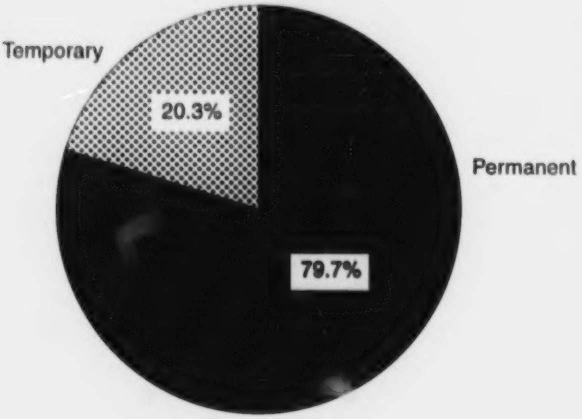


Source: Authors' analysis.

Has the recent recovery been constrained by slow labor-force growth due to modest population growth? After all, labor-force growth was also slower in recent years. There are two reasons for thinking that the recent labor-market expansion was not demographically constrained. First, in mid-1994 there was still considerable slack in the labor market that left room for expansion. Second, the labor-force participation rate has actually fallen in this recovery, while it grew in others (Table 4.10). This trend reflects both a withdrawal from the labor force (primarily by older men) and the failure to attract new entrants (primarily women). There is every reason to believe that a stronger labor-market expansion would have been associated with growing labor-force participation. That is, the historically slow labor-force growth of recent years is another symptom of a historically weak recovery.

Another problematic aspect of the recovery has been the rapid expansion of temporary employment. As **Figure 4C** shows, 20% of the private-sector jobs created in the recovery were in the temporary-help industry. We return to this topic below in our discussion of contingent employment.

FIGURE 4C
Private-Sector Jobs Created in the Recovery



Source: Authors' analysis.

Job Creation: How Fast in the 1980s?

A drop in unemployment after 1982 led to the impression that the 1980s were a time of exceptional job creation. Now that the 1980s recovery has ended, it is possible to directly compare it to prior business cycles. As it turns out, the notion that the 1980s were a time of rapid job creation is factually incorrect. (The mid-1980s recovery was also not the longest post-war "peace-time" recovery unless one labels the 1960s recovery as a "war-time" recovery. While the Vietnam buildup occurred during this period, the major military buildup in the 1980s had an even larger output effect.)

Table 4.11 looks at employment growth over the last two business cycles (1973-79 and 1979-89) relative to the earlier post-war period to see whether the long-term growth in employment was faster in the 1980s. Four measures of employment growth are presented: nonfarm payroll employment, civilian employment, total hours worked, and full-time equivalent employment (which combines part-time and full-time according to practices in each industry). The trend is unmistakable: each measure of employment grew

TABLE 4.11
Employment Growth, 1947-93

	Measures of Employment					
Period	Nonfarm Payroll	Civilian Employment	Hours of Work	Full-Time Equivalent Employment	Working-Age Population	Labor-Force Participation Rate
	(Annual Rates of Growth)					(Percentage-Point Annual Growth)
1947-67	2.0%	1.3%	1.6%	1.8%	1.2%	0.07
1967-73	2.6	2.2	1.6	1.9	2.1	0.20
1973-79	2.6	2.5	1.8	2.3	1.9	0.48
1979-89	1.8	1.7	1.5	1.7	1.2	0.28
1989-93	0.6	0.4	n.a.	n.a.	0.9	-0.07

Source: Authors' analysis.

far more slowly from 1979 to 1989 than from 1973 to 1979. For instance, the rate at which civilian employment rose from 1979 to 1989, 1.7% annually, was more than 30% slower than the 2.5% annual employment-creation rate prevailing between 1973 and 1979. Job creation slowed even further in the 1990s, although the business cycle has not yet peaked.

The last two columns of Table 4.11 show two reasons why unemployment was able to fall in the 1980s despite *a much slower growth in job creation*. First, the working-age population grew more slowly than it did in the 1967-79 period. As a result, there were fewer potential new young workers in 1989 than in 1979, even though the overall population grew by over 12% (1.2% annually for 10 years). In 1989, there were 32.2 million 16- to 24-year-olds, a smaller number than the 37.0 million in 1979 or even the 33.5 million in 1973.

Second, the long-term rise in the proportion of the working-age population seeking work (the labor-force participation rate) also leveled off in the 1980s. As Table 4.11 shows, the annual percentage-point increase in the labor-force participation rate in the 10 years between 1979 and 1989 was substantially less than in the six years between 1973 and 1979 (0.28 versus 0.48), primarily reflecting a slowdown in the growth of women's labor-force participation.

These two trends, the smaller number of potential young workers and the slower labor-force participation growth, have meant slower growth in the number of people seeking work. Thus, the lower unemployment of the later part of the 1980s was *not* due to superior job creation. Despite the slower growth rate of new jobs, unemployment was reduced because of the historically slow growth of new workers seeking employment.

The Growth in Part-Timers

As we have seen earlier, there has been a growth in underemployment because more people who want full-time jobs are working part time. This section examines the growth of part-time work and the associated problems.

The expansion of part-time work is not *necessarily* a problem. Many workers prefer a part-time schedule because it allows time to pursue education, leisure, or family responsibilities. But large numbers of part-timers would prefer to work full time. Part-timers generally have lower pay, lower-skilled jobs, poor chances of promotion, less job security, inferior benefits (such as vacation, health insurance, and pension), and lower status overall within their places of employment.

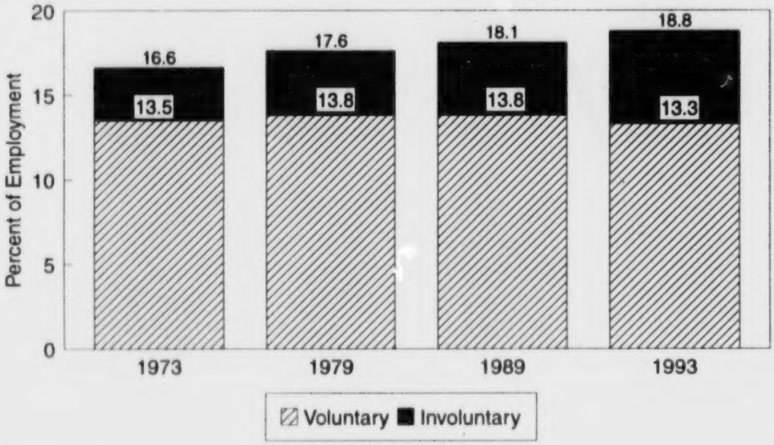
Table 4.12 shows that the share of total employment made up by full-timers declined steadily from 1973 to 1989. At the same time, the share of jobs that are part time increased from 16.6% in 1973 to 18.1% in 1989 and to 18.8% in 1993. This increase in the proportion of workers working part time since 1973 has been due almost entirely to the increased rate at which workers are working part time *involuntarily* (**Figure 4D**). It thus reflects the increased use of part-timers by employers and not the preference of the workforce for shorter hours.

TABLE 4.12
Composition of Nonagricultural Employment, 1973-93

	Percent Part Time			Percent	
Year	Total	Involuntary	Voluntary	Full-time	Total
1973	16.6%	3.1%	13.5%	83.4%	100.0%
1979	17.6	3.8	13.8	82.4	100.0
1989	18.1	4.3	13.8	81.9	100.0
1991	18.9	5.4	13.5	81.1	100.0
1993	18.8	5.5	13.3	81.2	100.0

Source: Authors' analysis.

FIGURE 4D
Composition of Part-Time Employment, 1973-93



Source: Authors' analysis.

In 1989, for instance, involuntary part-time workers make up 4.3% of the workforce, an increase of 0.5 and 1.2 percentage points of the workforce over 1979 and 1973, respectively. Nearly 5 million workers (Table 4.2), on average, or nearly one-fourth of all part-time workers, were involuntary part-timers in 1989. Involuntary part-time work grew in the downturn to 5.4% in 1991 and held at recession levels through 1993.

Teenagers, persons of retirement age, and adult women are the groups most likely to work part time (**Table 4.13**). In 1989, 46.3% of employed 16- to 21-year-olds and 52.4% of workers 65 or older worked in part-time jobs. More than one in five employed adult women was a part-time worker in 1989.

These demographic groups—women, teenagers, and older workers—are the ones most willing to accept lower pay and status in order to obtain a reduced work schedule. However, a demographic explanation for the expansion of part-time jobs—that is, the growth of women and younger workers in the labor force raises the need for part-time work—is not consistent with the available data. As shown in Table 4.12 above, the rise of part-time

TABLE 4.13
Age and Gender Composition of the Labor Force and Rate of Part-Time Employment, 1969, 1979, and 1989

	1969		1979		1989	
Gender & Ages	Share of Employment	Percent Part Time	Share of Employment	Percent Part Time	Share of Employment	Percent Part Time
All, 16-21	12.8%	40.6%	14.0%	41.7%	10.4%	46.3%
Women, 22-44	17.3	22.7	23.1	22.5	27.7	21.9
Women, 45-64	13.2	22.5	11.3	24.4	11.6	23.8
Men, 22-64	53.2	3.7	48.9	4.8	47.8	6.7
All, 65+	3.5	41.1	2.7	52.9	2.6	52.4
Total	100.0	15.5	100.0	17.6	100.0	18.1
Total, holding within-group rates at 1969 levels	--	15.5	--	16.4	--	15.9
Total, holding within-group rates at 1979 levels	--	--	--	17.6	--	17.0

Source: Tilly (1991).

work since 1973 is entirely due to the increased incidence of involuntary part-time work. Moreover, for adult men, the group with the least preference for part-time work, the rate of part-time work rose from 3.7% in 1969 to 6.7% in 1989.

In fact, the increase in part-time work over the last 20 years can be fully explained by a rise in part-time work within each demographic group rather than by any change in the age-gender composition of employment. Table 4.13 presents an analysis that allows an assessment of the impact of demographic shifts on the rise in the overall rate of part-time employment between 1969 and 1979 and between 1979 and 1989. If the rates of part-time work within each group had remained at their 1969 levels while the mix of employment, such as more women in the workforce, changed as it did from 1969 to 1979, then the overall rate of part-time work would have risen from 15.5% in 1969 to 16.4% in 1979. Thus, demographic shifts can account for just 0.9 percentage points (16.4 less 15.5) of the overall 2.1 percentage-point rise (17.6 less 15.5) in the rate of part-time employment between 1969 and 1979. Surprisingly, demographic shifts between 1979 and 1989 were a force for *less* part-time work. Had demographic shifts been the only factor affect-ing the overall rate of part-time work, then 0.6% less of the workforce (17.0 less 17.6) would have been part-time workers. Yet the rate of part-time work actually rose from 17.6% to 18.1%, indicating that nondemographic factors led to a 1.1% rise in the rate of part-time work (the difference between the demographically neutral 17.0% and the actual 18.1%). Over the entire 1969-89 period, demographic shifts can account for only 0.4% (15.9 less 15.5) of the 2.6% rise (18.1 less 15.5) in the rate of part-time employment. During this time, the overall rate of part-time work rose because teens, older workers, and men were more likely to work part time. Adult women, on the other hand, were more likely to work full time in 1989 than in 1979.

The major reason for growing part-time work is that job growth has been concentrated in the service industries, which use part-timers intensively. In 1989, for instance, 29.7% of the retail/wholesale trade workforce and 24% of the service-industry workforce were employed part time (**Table 4.14**). As we saw in Chapter 3, roughly three-fourths of the net new jobs created

TABLE 4.14
Industry Composition of the Labor Force and Rate of Part-Time Employment, 1969, 1979, and 1989

	1969		1979		1989	
Industry	Share of Employment	Percent Part Time	Share of Employment	Percent Part Time	Share of Employment	Percent Part Time
Construction	6.0%	8.6%	6.0%	10.5%	5.9%	10.5%
Durable Mfg.	18.2	3.2	15.3	3.8	12.0	3.9
Nondurable Mfg.	12.3	7.8	9.9	8.6	8.3	8.1
Trans., Comm., Util.	7.3	7.8	7.0	9.0	7.3	8.7
Trade	18.5	26.3	20.7	30.0	21.4	29.7
Finance	5.1	10.5	6.2	11.9	7.1	11.5
Services	25.3	26.2	28.1	25.0	32.1	24.0
Public Admin.	6.5	6.2	5.9	6.6	5.3	5.8
Mining	0.7	5.0	1.0	4.0	0.6	4.8
All Industries	100.0	15.1	100.0	17.1	100.0	17.6
All industries, holding within-industry rates at 1969 levels	--	15.1	--	16.2	--	17.2
All industries, holding wtihin-industry rates at 1979 levels	--	--	--	17.1	--	18.1

Source: Tilly (1991).

between 1979 and 1989 were in these two industries. This shift of employment toward industries that provide low-wage, part-time employment can explain 2.1 of the 2.5 percentage-point rise (or 84% of the increase) in the rate of part-time employment among nonagricultural wage and salary workers between 1969 and 1989. Shifts in the industry composition of employment have led to an additional 1% of the workforce in part-time work in each of the last two decades.

The rate of voluntary part-time work in each industry sector generally rose between 1969 and 1979 but fell between 1979 and 1989 **(Table 4.15)**. Involuntary part-time work, on the other hand, has generally risen over the entire post-1969 period, especially in the service and trade industries, which employ the largest numbers of involuntary part-time workers. This suggests that the rise in part-time work in particular sectors reflects employer strategies (using a low-wage, high-turnover workforce) rather than workforce preferences.

A major problem associated with part-time employment is lower hourly pay received by part time workers compared to equivalent full-time workers **(Table 4.16)**. Women who work part time earn 23.7% less in wages per hour than those working full time. This wage differential is not due simply to the concentration of part-timers in low-wage occupations, since, as Table

TABLE 4.15
Rates of Voluntary and Involuntary Part-Time Work by Industry, 1969, 1979, and 1989

	Involuntary			Voluntary		
Industry	1969	1979	1989	1969	1979	1989
Construction	4.4%	5.4%	6.1%	4.2%	5.0%	4.4%
Durable Mfg.	1.4	1.5	1.6	1.9	2.3	2.3
Nondurable Mfg.	3.4	3.8	3.4	4.4	4.8	4.7
Trans., Comm., Util.	1.8	2.6	2.7	6.0	6.4	6.0
Trade	2.9	5.4	6.3	23.4	24.5	23.4
Finance	1.0	1.7	1.8	9.5	10.2	9.6
Services	3.1	4.1	4.7	23.1	21.0	19.3
Public Admin.	0.8	1.3	0.9	5.4	5.3	4.9
Mining	1.6	2.3	2.5	3.4	1.7	2.3
All Industries	2.5	3.6	4.1	12.6	13.5	13.5

Source: Tilly (1991).

TABLE 4.16
Wage Differences Between Part-Time and Full-Time Workers by Gender and Selected Occupations, 1989

	Percent of Part-time Workers	Average Hourly Wage, 1989 (1989 Dollars)		Wage Difference	
		Part Time	Full Time	Dollars	Percent
Women					
All Workers	100.0%	$7.02	$9.20	-$2.18	-23.7%
Prof., Tech.	16.9	11.81	12.42	-0.61	-4.9
Sales	18.4	5.49	8.19	-2.70	-33.0
Admin.	24.7	7.10	8.50	-1.40	-16.5
Service	29.3	5.12	5.88	-0.76	-12.9
Men					
All Workers	100.0%	$7.24	$12.28	$5.04	-41.0%
Prof., Tech.	12.6	13.43	16.19	-2.76	-17.0
Sales	13.0	6.26	12.60	-6.34	-50.3
Admin.	10.4	6.33	10.91	-4.58	-42.0
Service	25.6	4.88	8.43	-3.55	-42.1
Laborers	15.4	5.84	8.13	-2.29	-28.2

Source: Authors' analysis.

4.16 shows, part-timers are paid significantly less in each occupation. The part-time wage differential is even greater among men than among women.

The pay difference between part-time and full-time workers is even greater for benefits, however (**Table 4.17**). For instance, only 25.6% of part-time female family heads are included in their employers' health plans, compared to 74.1% of full-timers. Similarly, men working in part-time jobs are only about half as likely (37.1% versus 79%) to be included in their employers' health plans.

Even when part-time workers are covered by their employers' health insurance plans, they are much more likely to have to pay toward it—or are less likely to receive employer-paid health insurance coverage.

As **Figure 4E** shows, the fewer the hours of work, the less likely an employee will have employer-provided health insurance (99% of full-timers, but 58% of those working 20-29 hours per week) and the less likely the provided insurance will be paid by the employer. More information on uninsured workers is provided in Chapter 7.

TABLE 4.17
Differences in Fringe Benefits for Full-Time and Part-Time Workers, by Gender or Marital Status and Occupation, 1987

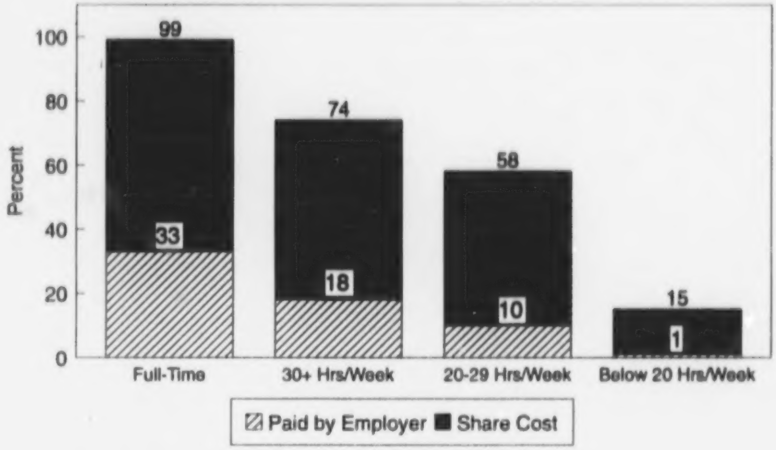
Gender or Marital Status and Occupation	Included in Health Plan		Included in Pension Plan	
	Part Time	Full Time	Part Time	Full Time
Female Family Heads				
All Workers	25.6%	74.1%	14.2%	50.2%
Professional, Managerial, and Technical	41.3	85.9	23.0	62.4
Sales	20.5	60.3	11.8	31.9
Clerical	36.8	82.1	20.6	55.9
Service	17.2	46.4	8.1	28.3
Craft, Operative, and Labor	22.8	69.1	18.8	45.2
Wives				
All Workers	17.8%	59.7%	17.9%	50.9%
Professional, Managerial, and Technical	43.6	86.1	24.5	67.6
Sales	38.7	75.3	18.5	44.2
Clerical	44.1	84.8	17.6	70.0
Service	27.8	71.8	12.9	55.6
Craft, Operative, and Labor	36.5	75.2	17.7	54.5
Husbands & Male Family Heads				
All Workers	37.1%	79.0%	18.3%	58.5%
Professional, Managerial, and Technical	43.6	86.1	24.5	67.6
Sales	38.7	75.3	18.5	44.2
Clerical	44.1	84.8	17.6	70.0
Service	27.8	71.8	12.9	55.6
Craft, Operative, and Labor	36.5	75.2	17.7	54.5

Source: Blank (1990).

Pay differentials are even greater when it comes to pensions. In each occupation group, workers with part-time jobs are far less likely than full-time workers to be enrolled in their employers' pension plans (Table 4.17).

The gap between part-time and full-time workers in the provision of health and pension benefits is almost as wide for women who are heads of households as it is for women in married-couple families (Table 4.17). It is also just as wide among professional women as among women in clerical or service occupations.

FIGURE 4E
Partially or Fully Paid Medical Benefits Offered to Employees, by Full- or Part-Time Status, 1991



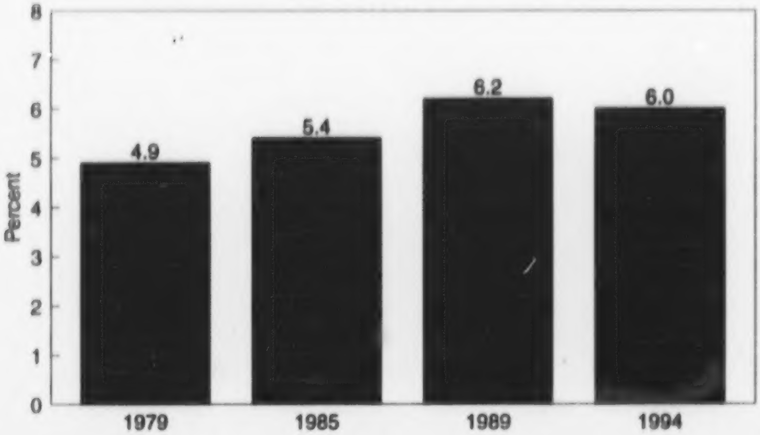
Source: Callaghan and Hartmann (1991).

More Than One Job

The growth of part-time work reflects growing underemployment and deteriorating pay and opportunity in the economy. The growth of multiple jobholding—people working in at least two jobs—reflects overemployment due to the deterioration of real wages since 1979. This increase persisted even during the recovery years from 1985 through 1989 (**Figure 4F**). Between 1979 and 1989, economic hardship added one percentage point to the proportion of the workforce holding multiple jobs (**Table 4.18**), and was responsible for roughly 1.17 million additional multiple jobholders. (If the multiple jobholder rate was 5.2% rather than 6.2% in 1989, there would have been 6.06 million rather than 7.23 million multiple jobholders.)

In 1989, 7.2 million workers held at least two jobs. The rate of multiple jobholding grew from 4.9% in 1979 to 6.2% in 1989, an increase of 1.3 percentage points (Figure 4F). It is especially noteworthy that most of the growth of multiple jobholding occurred in the recovery years from 1985 to 1989, when an additional 1.5 million workers began working more than one job.

FIGURE 4F
Multiple Jobholders' Share of the Workforce, 1973-94



Source: Authors' analysis.

TABLE 4.18
Growth of Multiple Jobholding, All Workers, 1973-94

Year	Number of Multiple Jobholders (000)	Multiple-Jobholding Rate	Percent of Workforce Who Hold Multiple Jobs Because of: Economic Hardship*	Percent of Workforce Who Hold Multiple Jobs Because of: Other Reasons**
1973	4,262	5.1%	n.a.	n.a.
1979	4,724	4.9	1.8%	3.1%
1985	5,730	5.4	2.2	3.2
1989	7,225	6.2	2.8	3.4
1994	7,316	6.0	n.a.	n.a.
Change				
1973-79	462	-0.2	n.a.	n.a.
1979-85	1,006	0.5	0.4	0.1
1985-89	1,495	0.8	0.6	0.2
1989-94	91	-0.2	n.a.	n.a.

* To meet regular household expenses or pay off debts.

** Includes savings for the future, getting experience, helping a friend or relative, buying something special, enjoying the work, and so on.

Source: Authors' analysis.

The multiple-jobholding rate held steady at 6.2% even as total employment declined in the 1989-91 downturn but fell in the recovery to 6.0% in 1994.

An analysis of the reasons for multiple jobholding shows that the increase over the 1979 to 1989 period reflects deteriorating economic performance, rather than enhanced opportunity. The growth of multiple jobholding has occurred primarily among workers who work at more than one job because of "economic hardship"—the need to meet regular expenses or to pay off debts (Table 4.18). Multiple jobholding due to economic hardship increased by 1.0 percentage point from 1979 to 1989, accounting for more than three-fourths of the 1.3 percentage-point rise in multiple jobholding. This same pattern holds even over the recovery years from 1985 to 1989, when increased economic hardship accounted for 0.6 percentage points of the 0.8 percentage-point rise in the multiple-jobholding rate. In contrast, the multiple-jobholding rate for "other reasons" rose only 0.3%, from 3.1% to 3.4%, between 1979 and 1989 (with a rise of 0.2% between 1985 and 1989) and was responsible for about 350,000 more multiple jobholders (relative to a situation where the "other reasons" rate had held at 3.1%). Because data on the reasons people work multiple jobs are not available after 1991, it is difficult to speculate about what caused multiple jobholding to decline in the 1990s.

The multiple-jobholding rate among women rose rapidly between 1979 and 1989, from 3.5% to 5.9% **(Table 4.19)**. Economic hardship explains roughly 60% of this increase (1.4 percentage points of the 2.4 percentage-point increase). Between 1985 and 1989, 75% of the rise in women's multiple jobholding was due to economic hardship. By 1989, a greater proportion of women (2.9%) than men (2.6%) worked more than one job in order to meet regular expenses or to pay off debts. The decline in multiple jobholding in the 1990s occurred only among men.

Table 4.20 provides a demographic breakdown of those working more than one job for economic hardship reasons. As suggested by Table 4.19, the share of women among those who worked more than one job because of economic hardship rapidly increased to the point where, by 1989, nearly half of these workers were women. In 1989, more than half of multiple jobholders were married (wives, 19.8%; husbands, 36.2%) and an additional fifth were widowed, divorced, or separated men or women. These data thus show that the hardship associated with and reflected by multiple jobholding is concentrated in working families and among adult workers.

The majority of those working multiple jobs in 1994 worked at least 50

TABLE 4.19
Growth of Multiple Jobholding by Gender, 1973-94

Year	Number of Multiple Jobholders (000)	Multiple-Jobholding Rate	Percent of Workforce Who Hold Multiple Jobs Because of: Economic Hardship*	Other Reasons**
Women				
1973	869	2.7%	n.a.	n.a.
1979	1,407	3.5	1.5%	2.0%
1985	2,192	4.7	2.0	2.7
1989	3,109	5.9	2.9	3.0
1994	3,343	5.9	n.a.	n.a.
Change				
1973-79	538	0.8	n.a.	n.a.
1979-89	785	1.2	0.5	0.7
1985-89	917	1.2	0.9	0.3
1989-94	234	0.0	n.a.	n.a.
Men				
1973	3,393	6.6%	n.a.	n.a.
1979	3,317	5.9	2.1	3.8
1985	3,537	5.9	2.3	3.6
1989	4,115	6.4	2.6	3.8
1994	3,973	6.0	n.a.	n.a.
Change				
1973-79	-76	-0.7	n.a.	n.a.
1979-85	220	0.0	0.2	-0.2
1985-89	78	0.5	0.3	0.2
1989-94	-142	-0.4	n.a.	n.a.

---

* To meet regular household expenses or pay off debts.

** Includes saving for future, getting experience, helping a friend or relative, buying something special, enjoying the work, and so on.

Source: Authors' analysis.

hours per week (**Table 4.21**). Two-thirds of men working more than one job worked at least 50 hours per week, as did about 38% of women. These data confirm that multiple jobholding does not simply reflect people combining two part-time jobs into the equivalent of one full-time job. Rather, multiple jobholders worked an average of 49 hours per week in 1994.

TABLE 4.20
Distribution of Multiple Jobholders Experiencing Economic Hardship,* 1979-89

Gender/Marital Status	1979	1985	1989
Total, 16 Years and Over	100.0%	100.0%	100.0%
Women	33.7%	40.6%	48.2%
Married, Spouse Present	11.2	14.9	19.8
Other	22.5	25.7	28.5
Single	n.a.	10.8	13.1
Widowed, Divorced, or Separated	n.a.	14.9	15.5
Men	66.4%	59.3%	51.8%
Married, Spouse Present	54.9	42.8	36.2
Other	11.6	16.5	15.6
Single	n.a.	10.2	11.4
Widowed, Divorced, or Separated	n.a.	6.4	4.2

* Workers who report they have multiple jobs in order to meet regular household expenses or pay off debts.

Source: Authors' analysis.

TABLE 4.21
Hours Worked by Multiple Jobholders, by Gender, 1994

Gender	Weekly Hours	Percent of Multiple Jobholders Working: 0-40 Hours	41-49 Hours	50-69 Hours	70+ Hours	Total
Total	49.1	23.9%	24.0%	39.7%	12.5%	100.0%
Men	53.9	15.0	21.2	45.9	17.9	100.0
Women	43.5	34.5	27.3	32.3	5.9	100.0

Source: Authors' analysis.

The Contingent Workforce

A significant portion of people in today's workforce have become "contingent workers." Workers can be hired on a temporary or "contingent" basis in a variety of ways. Some firms put workers directly on their payroll but assign them to an internal temporary-worker pool. Employers also use temporary-help agencies to obtain workers on a temporary basis, sometimes for long periods. Some businesses hire independent contractors to perform work that would otherwise be done by employees. All three types of contingent workers are frequently denied health insurance and pension coverage and have little access to promotions and better jobs.

Data drawn from surveys of major companies suggest that the use of contingent labor is widespread and rising (**Table 4.22**). In 1986, 36% of the surveyed firms had an internal temporary-worker pool; a later survey (not of the same firms) showed that 49% of firms use their own temporary-worker pool. The hiring of workers through temporary-help agencies is now nearly universal among large companies: in the 1989 survey, 97% of the firms used temporary-help agencies. Independent contracting is also widespread, with 78% of the firms using this method in 1989.

Unfortunately, these surveys do not have information on how many contingent workers these firms actually used, and no recent data are available. The only subgroup of contingent workers that is captured by government statistics is the workforce employed through temporary-help agencies. Unfortunately, these data are not available for the years before 1982. For a longer perspective, however, it is possible to examine the growth of the entire personnel-services industry, which consists primarily of workers hired through or working for temporary agencies (three-fourths of the total) but also includes people working in employment agencies (**Table 4.23** and **Figure 4G**). There has been an explosive growth in personnel-services employ-

TABLE 4.22
The Use of Various Types of Contingent Labor

	Percent of Surveyed Firms That Use Contingent Labor, by Type of Labor		
Survey	Internal Temporary-Worker Pool	Temporary-Help Agencies	Independent Contracting
1986*	36%	77%	63%
1989**	49	97	78

* Survey of 47 major companies.
** Survey of 521 major companies.

Source: Carre (1992).

TABLE 4.23
The Growth in Personnel-Services Industry Employment,* 1973-93

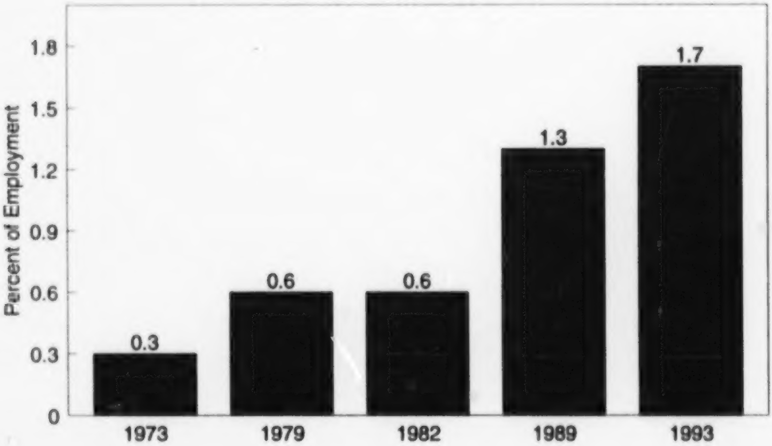
	Number (000)		As Share of Total Employment	
Year	Total	Women	Total	Women
1973	247	128	0.3%	0.2%
1979	508	298	0.6	0.3
1982	541	341	0.6	0.4
1989	1,455	874	1.3	0.8
1991	1,485	867	1.4	0.8
1993	1,924	1,114	1.7	1.0

---

* This industry consists of temporary-help agencies (75% of total employment) and employment agencies (25% of total employment).

Source: Authors' analysis.

FIGURE 4G
Temporary and Personnel-Services Industry Employment, 1973-93



Source: Authors' analysis.

ment over the 1982-89 recovery and, as we saw earlier, in the current recovery. Industry employment rose by 947,000 from 1979 to 1989 and an additional 469,000 by 1993. As a result, the share of the workforce employed in the personnel-services industry more than doubled, from 0.6% in 1982 to 1.3% in 1989, and rose further to 1.7% in 1993. That industry share in 1993 was nearly six times greater than the 0.3% share in 1973. Women are more likely to be employed as temporary workers, partly because such work provides flexible hours but also because there is a higher incidence of temporary work in occupations dominated by women, such as clerical work. Moreover, "temping" is sometimes the only option available for work. In 1993, 1,114,000, or 58%, of the 1,924,000 workers in the personnel-services industry were women. Since 1973, the industry has grown more female.

The available information on temporary-help industry employment since 1982 is presented in **Table 4.24**. These data confirm that the growth in the overall personnel-services industry is primarily due to more workers employed through temporary-help agencies. An additional 1.0% of the workforce, or 1,251,000 more workers, were employed through temporary-help agencies in 1993 than in 1982, with 55% of the increase among women.

Other types of marginal workers (**Table 4.25**) include "leased employees," who work for one firm but are leased to another, and workers employed at home (so employers can reduce their overhead and avoid labor regulations such as minimum-wage, overtime, and safety protections). These workers,

TABLE 4.24
Growth in Temporary-Help Industry Employment, 1982-93

	Number (000)		As Share of Total Employment	
Year	Total	Women	Total	Women
1982*	417	259	0.5%	0.3%
1989	1,216	722	1.1	0.7
1991	1,268	730	1.2	0.7
1993	1,668	951	1.5	0.9

* Earlier data not available.

Source: Authors' analysis.

TABLE 4.25
Elements of the Marginal Workforce*

	Number of Workers (000)
Temporary-Help Services	944
Leased Workers**	120
At-Home Workers***	2,243
8 Hours/Week or More	1,992
35 Hours/Week or More	1,067

---

* Data are from different sources and reflect the situation in the 1985-87 period.

** 1987

*** 1985

Source: Carre (1992).

along with those employed by temporary agencies, are the statistically visible portion of this new marginal workforce; many others—such as new immigrants in sweatshops—escape detection. These data are drawn from the mid-1980s and, therefore, understate the extent of the marginal workforce in the mid-1990s.

Self-Employment

A significant portion of total employment consists of self-employed workers, those whose primary job is working in their own business, farm, craft, or profession. Individual independent contractors, discussed above, would be considered self-employed.

In 1993, self-employment represented 7.8% of total employment, up from 7.1% in 1979 **(Table 4,26)**. Over the 1973-89 period the greatest growth in self-employment was among women workers—an additional 1.4% of women workers were considered self-employed in 1989 compared to 1973. Between 1989 and 1993, however, self-employment grew among men but shrank slightly among women.

Much of self-employment is disguised underemployment, as can be seen from the fact that self-employed workers earn far less than those on regular payrolls **(Table 4.27)**. Self-employed women earn only 63% as much as women wage and salary workers, despite the fact that self-employed women have more education (13.3 versus 13.0 years). The wage differences between

TABLE 4.26
The Growth of Self-Employment, 1948-93

Year	Self-Employment as Share of Total Employment* Among: All	Men	Women
1948	12.1%	n.a.	n.a.
1967	7.3	8.6%	4.9%
1973	6.7	8.2	4.4
1979	7.1	8.8	4.9
1989	7.5	9.0	5.8
1991	7.8	9.4	6.0
1993	7.8	9.5	5.7

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* Nonagricultural industries.

Source: Authors' analysis.

TABLE 4.27
Wages and Benefits, Self-Employed Versus Wage and Salary Employment, 1990

Pay/Benefit	Men	Women
Ratio of Hourly Wage		
Self-Employed/Wage and Salary	98%	63%
Average Years of Schooling		
Wage and Salary	13.0 yrs.	13.0 yrs.
Self-Employed	13.6	13.3
Percent with Job-Related Health Care Coverage		
Wage and Salary	79%	72%
Self-Employed	38	16

---

* Comparisons are of full-time, full-year workers.

Source: Devine (1994).

self-employed men and male wage and salary workers is slight (98%), but there is a greater education gap among men (13.6 versus 13.0 years).

Self-employed workers clearly have fewer benefits than are provided to wage and salary workers. The most visible and important benefit, health coverage, is provided to roughly three-fourths of wage and salary (working full-time and full-year) workers but to only 38% and 16%, respectively, of self-employed men and women. Although there has been no comprehensive analysis that determines the degree to which self-employment pays less than wage and salary employment, controlling for differences in human capital and other factors it appears that self-employment provides inferior pay and is another form of underemployment for many workers.

Conclusion

This chapter has reviewed recent trends in employment, underemployment, overemployment, and unemployment. These nonwage dimensions of the labor market have deteriorated for many working Americans at the same time that real wages have been eroded. The number of people working part time but wanting full-time work, or who are too discouraged to look for work, has grown. Millions more were holding at least two jobs to make ends meet, making do with lower wages in some self-employed venture, or stuck in a temporary job. The recent expansion of jobs in the later part of the recovery has helped to reduce the recession-driven shortage, but the long-term deterioration of job quality has continued into the 1990s.

Chapter 5

Wealth: Enriching the Wealthy, Creating Financial Insecurity for the Majority

Stagnant incomes and falling wages are only part of the decline in the well-being of working Americans. A family's standard of living, as well as its ability to cope with financial emergencies, are affected by its wealth. For example, financial assets, such as money in a bank account or stocks or bonds, can help a family make ends meet during periods of illness or unemployment. Tangible assets, such as a home or a car, can directly affect a family's quality of life and the ease with which it meets its needs for housing and transportation. Families also need to accumulate wealth for their future needs, such as retirement income or college expenses and tuition for children.

The distribution of wealth is even more concentrated at the top than is the distribution of income. In 1983, for instance, the richest 1% of families controlled 33.7% of household net worth but received 13.4% of household income. Over the 1983-89 recovery, the distribution of wealth became even more concentrated. In fact, the vast majority of the accumulated household wealth over the 1983-89 period accrued to the very richest families, while wealth among the bottom 40% of families actually fell. There has also been a growth in the wealth gap between white and nonwhite families. The consequence of increased wealth inequality is a larger gap in overall financial security between the rich on the one hand and the middle class and the poor on the other.

The growth rate of wealth in the 1980s—just under 2% annually—was comparable to that of the 1970s. In the 1980s, however, growth was concentrated in financial assets, the types of assets owned primarily by the wealthy. There was little growth in tangible assets—homes and consumer durables—which are the types of wealth most likely to be held by middle-class families. In the 1990s overall wealth per adult has actually declined, and the value of tangible assets has dropped nearly 13%. These trends suggest a growing inequality of wealth in the 1990s, with reduced wealth for a large segment of the population.

Aggregate Household Wealth: Financial Assets Boomed, Tangibles Failed to Grow

We have seen in Chapter 1 that income growth in recent years was slow by historical standards, increasingly unequal, and characterized by more work at lower wages. Has there been a similar trend regarding wealth creation and distribution? In this section we examine the change in the overall growth of wealth. Trends in wealth inequality are examined in the next section.

A basic measure of aggregate wealth is *household net worth*, which is the total assets of all households minus their debts. **Table 5.1** traces the growth of household net worth over the post-war period between cyclical peak years and to 1993. Household net worth per adult increased 1.9% per year between 1979 and 1989, equal to the 1.9% rate of 1973-79 but well under the 3.3% annual growth rate of 1949-67. Thus, growth in the 1980s in household wealth as well as in income was slow by historical standards.

Not all household assets increased in value at the same rate. Financial assets boomed in the 1980s, while tangible assets grew much more slowly (Table 5.1 and **Figure 5A**). Since the wealthy own most of the financial

TABLE 5.1
Growth of Household Wealth, 1949-93

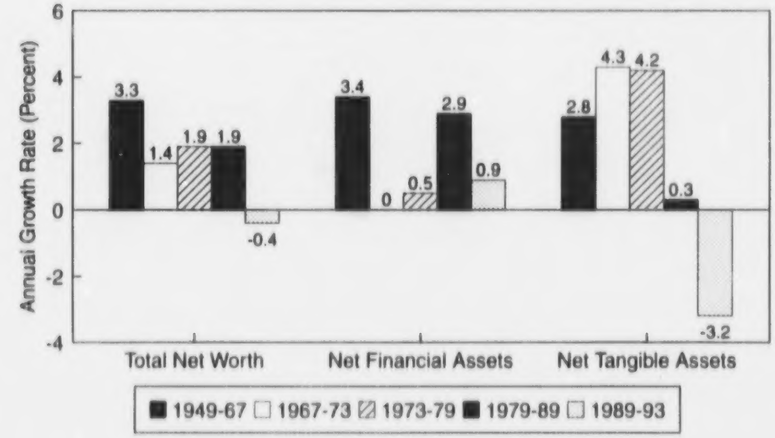
	Annual Growth of Real Household Net Worth Per Adult				
Type of Wealth	1949-1967	1967-1973	1973-1979	1979-1989	1989-1993
Total Net Worth*	3.3%	1.4%	1.9%	1.9%	-0.4%
Net Tangible Assets**	2.8	4.3	4.2	0.3	-3.2
Net Financial Assets***	3.4	0.0	0.5	2.9	0.9

* Includes all households, personal trusts, and nonprofit organizations.
** Consumer durables, housing, and land assets less home mortgages.
*** Financial assets less nonmortgage debt.

Source: Authors' analysis.

For detailed information on table sources, see Table Notes, page 382.

Figure 5A
Growth of Household Wealth per Adult, 1949-93



Source: Authors' analysis.

assets in the country (as discussed below), these developments have benefited them in particular. Net financial assets per adult grew 2.9% per year in the 1979-89 period, close to the 3.4% growth rate of 1949-67. The rapid financial assets growth of the 1980s contrasts starkly with the modest 0.5% annual growth of 1973-79 and the stagnation between 1967 and 1973.

On the other hand, the value per adult of tangible assets, such as housing and land, automobiles, appliances, and so on, grew just 0.3% a year in the 1979-89 period. This lack of tangible asset growth from 1979 to 1989 is especially impressive because there had been strong tangible asset growth throughout the 1950s, 1960s, and 1970s. Since tangible assets are spread out more evenly than financial assets, their stagnation reflects that the bulk of the population was unable to acquire possessions in the 1980s. The changing composition of wealth growth shown in Table 5.1 thus previews the growing wealth inequality detailed in the next section.

Overall, wealth creation suffered between 1989 and 1993. Net worth fell 0.4% annually, driven by a rapid 3.2% annual decline in tangible assets that more than erased the small gains of the 1980s. In contrast, financial assets continued their growth in the 1990s, although at a reduced pace of 0.9% per year.

Wealth Inequality Exceeds Income Gap

The distribution of wealth is considerably less equal than the distribution of income. The concentration of wealth among very high-income households is dramatic. **Table 5.2** and **Figure 5B** reveal that, in 1989, the latest year for which such data are available, the top 1% of families earned 16.4% of total income yet owned 38.9% of total net worth and a remarkable 48.1% of net financial assets. (These data are from a different source than that used in Chapters 1 and 2.) Net worth is the value of one's assets minus one's debts. For a typical family this might be the value of its house, car, other consumer goods, and bank accounts, less the amount owed on its mortgages and credit cards. Net financial assets are financial assets minus debts. For the same family, this would be the bank account balance minus mortgage and credit card debts. The value of pension plans are not included in this analysis.

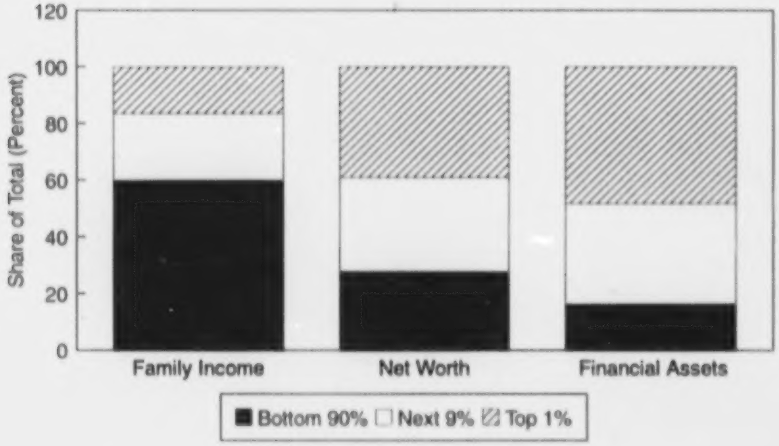
In contrast, the bottom 90% of households received 59.7% of all income, but held just 27.6% of total net worth and just 16.2% of total financial assets. Many of the families at the bottom of the income distribution have no assets to fall back on. In 1983 (the latest year for which data are available) 20% of families had a zero or negative net worth, and 54% had zero or negative net financial assets. Though most of the latter are not poor, their lack of financial assets indicates that more than half of American families are living from paycheck to paycheck, with little or nothing in the bank in case of a loss of job or other serious financial emergency.

TABLE 5.2
Distribution of Wealth, 1989

Wealth Class	Net Worth	Net Financial Assets	Distribution of Household Income
All	100.0%	100.0%	100.0%
Top 1%	38.9%	48.1%	16.4%
Next 9%	33.4	35.6	23.7
Bottom 90%	27.6	16.2	59.7

Source: Analysis of Wolff (1994).

Figure 5B
Distribution of Income and Wealth, 1989



Source: Analysis of Wolff (1994).

The concentration of financial assets at the top implies that American businesses are owned and financed primarily by the richest families. In 1989, for example, the wealthiest 0.5% owned 30.5% of all corporate stocks, while the bottom 90% owned only 10.7% (**Table 5.3**). The top 0.5% also owned 41.4% of bonds and 46.9% of private business assets, while the bottom 90% owned only 11.5% of bonds and 10.0% of business assets. Overall, Table 5.3 shows that the types of wealth that generate income, such as bonds, businesses, stocks, and other financial assets, tend to be held almost exclusively by the richest 10%, if not the top 1%, of families.

The types of wealth held by the bottom 90% of families are primarily homes and life insurance. Nonwealthy families also own liquid assets (primarily cash in checking, savings, and money-market accounts), which are used to meet regular expenses. Nonwealthy families, however, also owe 70.0% of all debt, primarily mortgages on their homes.

TABLE 5.3
Selected Holdings of Assets by Family Wealth Level, 1989

Asset Type	Percent of Total Assets Held by: Super Rich (Top 0.5%)	Very Rich (Next 0.5%)	Rich (90-99%)	Rest (0-90%)	Total
Assets Held Primarily by the Wealthy					
Stocks	30.5%	15.7%	43.1%	10.7%	100.0%
Bonds	41.4	12.8	34.3	11.5	100.0
Trusts	38.1	15.5	35.4	11.0	100.0
Business	46.9	9.4	33.7	10.0	100.0
Nonhome Real Estate	30.7	9.6	39.6	20.0	100.0
Assets and Liabilities Held Primarily by the Nonwealthy					
Principle Home	4.4	3.0	26.3	66.3	100.0
Life Insurance	12.6	4.2	27.7	55.4	100.0
Liquid Assets*	13.2	7.8	37.8	41.2	100.0
Total Debt	7.5	2.6	19.9	70.0	100.0

* Includes cash, demand deposits, savings and time deposits, money market funds, certificates of deposit, and IRA and Keogh accounts.

Source: Wolff (1994).

Growing Wealth Inequality

As we shall see, there was a dramatic growth in wealth inequality during the late 1980s. It is important to note, however, that the long-term trend prior to the 1980s was toward a lesser concentration of wealth. **Table 5.4** shows the share of total wealth (both excluding and including retirement wealth) over the 1922-81 period for years in which data are available. In general, wealth was more concentrated in the 1920s and 1930s than in any period since World War II. The concentration of wealth (excluding retirement wealth) held by the wealthiest 1% remained fairly steady over the 1940s, 1950s, and 1960s, ranging from a low of 25.7% in 1949 to a high of 31.9% in 1965, with no discernable trend up or down. The data for 1976 and 1981, however, suggest that wealth became less concentrated during the 1970s.

TABLE 5.4
Share of Total Household Wealth Held by Richest 1% of Individuals, 1922-81

Year	Excluding Retirement Wealth	Including Retirement Wealth
1922	38.3%	37.9%
1929	37.2	36.7
1933	28.9	28.2
1939	38.1	33.4
1945	28.9	22.4
1949	25.7	20.5
1953	28.1	21.6
1958	27.0	20.7
1962	30.1	22.5
1965	31.9	23.4
1969	29.0	21.0
1972	28.6	20.5
1976	18.9	13.8
1981	23.6	n.a.

Source: Wolff (1992a).

Table 5.5, drawn from a consistent set of surveys, shows the changing composition of wealth from 1962 to 1983 and to 1989. The importance of home ownership, measured either as the gross or the net value of housing (gross value less mortgage debt, as shown in the last column), in total household wealth has not changed much over these periods. In general, a lesser share of wealth is now held in financial assets such as deposits, bonds, stocks, and trusts, which accounted for 51.8% of all wealth in 1962 but just 37.6% in 1989. Correspondingly, nonhousing real estate and business ownership have increased in importance, growing from 21.7% of gross assets in 1962 to 29.4% in 1989. Since all three types of assets are held disproportionately by the very rich, a shift from one to the other does not necessarily lead to any shift in wealth inequality.

Fortunately, the 1962, 1983, and 1989 surveys allow a direct examination of changes in the distribution of wealth. Between 1962 and 1983 there were

TABLE 5.5
Composition of Aggregate Household Wealth, 1962, 1983, and 1989

	Percent of Gross Assets Represented by:									
Year	Gross House Value	Other Real Estate	Business Equity	Deposits	Bonds	Stocks	Trusts	Total Assets*	Total Debt	Net Home Equity
1962	26.0%	6.3%	15.4%	19.6%	7.7%	19.8%	4.7%	100.0%	14.1%	17.6%
1983	30.1	14.9	18.8	18.9	4.2	9.0	2.6	100.0	13.1	23.8
1989	28.5	13.2	16.2	17.1	5.8	11.6	3.1	100.0	14.1	20.3

* Miscellaneous assets omitted from table.

Source: Wolff (1994).

only minor changes (**Table 5.6**). For instance, the percentage of total wealth held by each fifth of families remained comparable between 1962 and 1983, with a modest redistribution to the bottom 40% and to the upper 5%. Between 1983 and 1989, however, there was a major upward redistribution of wealth (**Figure 5C**). In 1989, the richest 0.5% of families owned 31.4% of household net worth, up 5.2 percentage points from the 26.2% share in 1983. This group's share of wealth grew by 0.3 percentage points (from 25.9% to 26.2%) over the entire 21-year period between 1962 and 1983, then grew 17 times as much as that in just six years between 1983 and 1989. No group other than the richest 0.5% increased its share of wealth between 1983 and 1989, and the wealth the richest 0.5% *gained* was greater than the *total* wealth held by the bottom 60% of families.

Most startling is the erosion of the wealth shares of the bottom 40% of families. The poorest fifth of families had more debt than assets in 1983 and fell further in debt by 1989. The second fifth saw its share of wealth reduced by a third, shrinking from a negligible 1.2% in 1983 to just 0.8% in 1989.

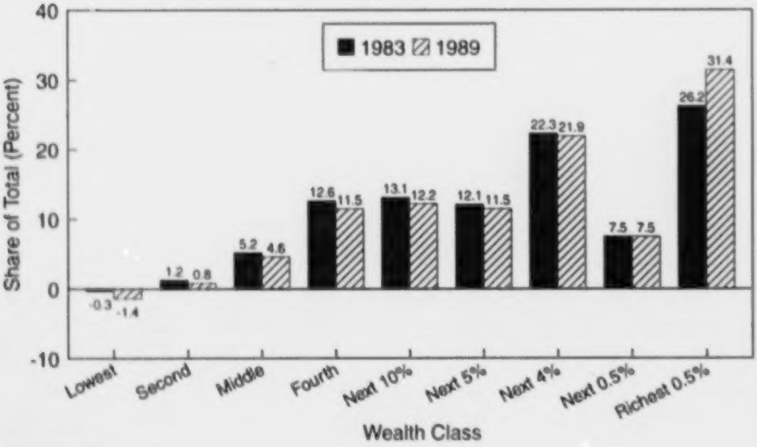
We have several clues as to why this spectacular redistribution occurred. As Table 5.6 also shows, there was a redistribution of family income during this same period. Given that the incomes of the well-off grew rapidly, it could be expected that their accumulation of wealth would also grow. In 1989, the upper fifth had an additional 4.2% of total family income relative to 1983, while the bottom 60% of families had a lower share. These shifts parallel the trends in wealth.

TABLE 5.6
Changes in Distribution of Net Worth and Family Income, 1962-89

Wealth Class	Percent of Net Worth 1962	1983	1989	Change 1983-89	Percent of Family Income 1983	1989	Change 1983-89
Top Fifth	81.0%	81.3%	84.6%	3.3%	51.9%	55.5%	3.6%
Richest 0.5%	25.9	26.2	31.4	5.2	9.2	13.4	4.2
Next 0.5%	7.5	7.5	7.5	0.0	3.7	3.0	-0.7
Next 4%	21.2	22.3	21.9	-0.4	13.3	13.3	0.0
Next 5%	12.4	12.1	11.5	-0.6	10.3	10.4	0.1
Next 10%	14.0	13.1	12.2	-0.9	15.5	15.2	-0.3
Bottom Four-Fifths	19.1	18.7	15.4	-3.3	48.1	44.5	-3.6
Fourth	13.4	12.6	11.5	-1.1	21.6	20.7	-0.9
Middle	5.4	5.2	4.6	-0.6	14.1	13.2	-0.9
Second	1.0	1.2	0.8	-0.4	8.6	7.6	-1.0
Lowest	-0.7	-0.3	-1.4	-1.1	3.7	3.1	-0.6

Source: Wolff (1994).

Figure 5C
Distribution of Wealth, 1983-89



Source: Wolff (1994).

The growth of income shares at the top, however, was somewhat less than what occurred for wealth—the upper 0.5% gained 4.2% of income but 5.2% of wealth. That income and wealth concentration should generally move together is not surprising. Neither should it be surprising that there were differences in the extent of the growth between the two. As **Table 5.7** shows, most wealth growth arose from the appreciation (or capital gains) of pre-existing wealth and not from savings out of income. Over the 1962 to 1989 period, roughly three-fourths of new wealth was generated by increasing the value of initial wealth (much of it inherited). The somewhat more important role of savings in the 1983-89 period reflects the unusually fast income growth of the very rich during that period.

TABLE 5.7
Sources of Wealth Growth, 1962-89

	Percentage of Wealth Growth Due to:		
Years	Initial Wealth-Holding Appreciation	Savings	Annual Growth of Wealth
1962-83	75%	25%	1.3%
1983-89	70	30	2.4

Source: Wolff (1992b).

The importance of the growth of pre-existing wealth in generating wealth accumulation suggests that the financial assets boom of the 1980s was responsible for the surge in wealth inequality (see Table 5.1). Since the richest 1% of families own about half and the bottom 90% own only 16.4% of net financial assets (Table 5.2), rapid gains in financial assets such as stocks and bonds will generate wealth for the very rich and increase wealth inequality.

Table 5.8 and **Figure 5D** show another dimension of growing wealth inequality by presenting the pattern of wealth growth for the various wealth classes over the 1983-89 period. The bottom 40% of families not only had less wealth in 1989 than in 1983, but also experienced significant losses in wealth. For instance, the second fifth of families (wealthier than the poor but less wealthy than the middle) saw their modest wealth holdings (in 1989 dollars) of $10,000 in 1983 reduced to $8,000 by 1989. This was a

TABLE 5.8
Change in Net Worth by Wealth Class, 1983-89
(1989 Dollars)

Wealth Class	Net Worth ($000) 1962	Net Worth ($000) 1983	Net Worth ($000) 1989	Percent Change* 1962-83	Percent Change* 1983-89	Percent of Total Real Wealth Growth Accruing to: 1962-83	Percent of Total Real Wealth Growth Accruing to: 1983-89
Top Fifth	$447	$658	$840	47.2%	27.7%	82.1%	98.8%
Richest 0.5%	5,724	8,481	12,482	48.2	47.2	26.9	54.2
Next 0.5%	1,658	2,436	2,984	46.9	22.5	7.6	7.4
Next 9%	411	619	737	50.5	19.0	36.5	28.7
Next 10%	154	212	243	37.4	14.7	11.2	8.5
Bottom Four-Fifths	$26	$38	$38	46.2%	0.0%	17.9%	1.2%
Fourth	74	102	114	37.4	12.2	10.8	6.7
Middle	30	42	45	40.8	7.1	4.8	1.6
Second	5	10	8	81.9	-17.8	1.7	-0.9
Bottom	-4	-2	-14	n.a.	n.a.	0.6	-6.2
Total	$110	$162	$199	46.5%	22.8%	100.0%	100.0%

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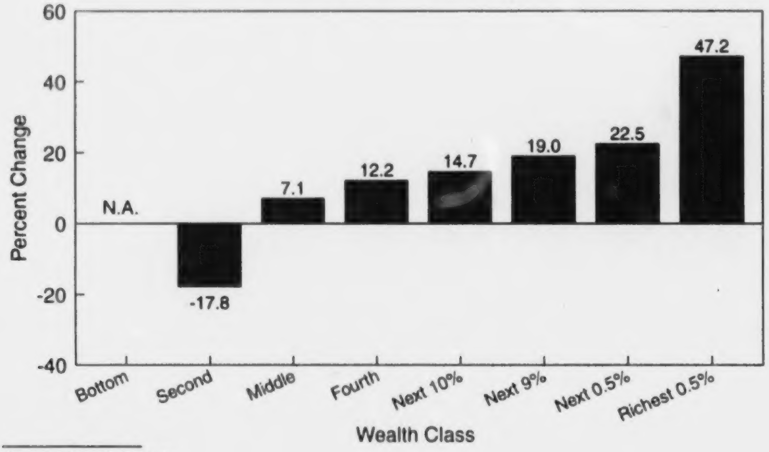
* Percent change based on unrounded dollar figures.

Source: Wolff (1994).

Figure 5D
Net Worth by Wealth Class, 1983-89



Source: Wolff (1994).

six-year period of economic *expansion*.

Only the upper 0.5% experienced faster-than-average growth in wealth. This group's holdings rose 47.2% in the six years after 1983, for an annual growth rate of 6.4%. The richest families had achieved an average net worth of $12.5 million by 1989, an increase of $4.0 million per family.

This pattern of wealth growth yielded a highly skewed distribution in the share of real wealth growth accruing to the various wealth classes, as shown in the last column of Table 5.8 and in **Figure 5E**. As we have seen before, the bottom 40% of families did not participate in the wealth growth of the 1983-89 period—the wealth of this group was falling or negative. On the other hand, fully 98.8% of the wealth created from 1983 to 1989 accrued to the wealthiest 20% of families. The richest 1% alone obtained 61.6% of the wealth created in this period.

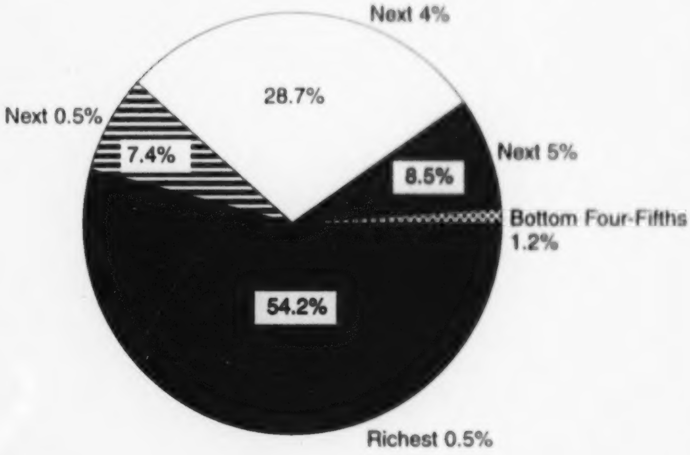
The data in **Table 5.9** are taken from a different set of surveys and confirm the pattern of unequal wealth growth over the late 1980s that was shown in previous tables. Ranking families by income (rather than wealth), one sees that only the top 20% of families saw their wealth increase in the 1984-88 period; the rest had less wealth in 1988 than in 1984. The startling truth is that, during the 1980s recovery, the vast majority of families lost wealth as the economy grew, unemployment fell, and family income rose. In the 1988-91 period, as the economy grew slowly and then fell into a recession, wealth declined among nearly every income group. On average, wealth dropped 11% in the three years following 1988.

TABLE 5.9
Change in Wealth by Income Class, 1984-91
(1993 Dollars)

Income Class	Median Net Worth			Percent Change		
	1984	1988	1991	1984-88	1988-91	1984-91
Top	$ 120,206	$ 136,524	$ 130,672	13.6%	-4.3%	8.7%
Fourth	61,009	56,497	52,202	-7.4	-7.6	-14.4
Middle	35,983	34,255	30,618	-4.8	-10.6	-14.9
Second	25,954	24,056	20,360	-7.3	-15.4	-21.6
Lowest	6,266	5,282	5,542	-15.7	4.9	-11.6
Average	$ 45,209	$ 43,670	$ 38,855	-3.4%	-11.0%	-14.1%

Source: Authors' analysis.

Figure 5E
Share of Growth by Wealth Class, 1983-89



Source: Wolff (1994).

Soaring Debt

Household debt has skyrocketed in recent years. Two measures of the total debt burdens of households—debt as a percent of assets and as a percent of personal income—have each grown markedly in the 1980s after a long period of relative stability (**Table 5.10**). These higher levels of debt have left families more vulnerable and the economy weaker. Household debt leapt from 64.8% of personal income in 1979 to 79.5% in 1989, and from 13.6% of household assets in 1979 to 15.5% in 1989. The debt burden has continued to grow in the 1990s, but at a slower pace.

These measures of debt burden do not reflect changes in debt service payments as interest rates change. Such fluctuations can make paying down any debt either more or less difficult. The estimates of debt service payments presented in the last three columns of Table 5.10 take changes in interest rates and repayment schedules (i.e., more 30-year versus fewer 15-year mortgages) into account. These data also show a sizeable growth in the debt burden over the period between 1979 and 1989, and a significant lessening of debt burden between 1989 and 1993 as interest rates fell.

TABLE 5.10
Household Debt Burden, 1949-93

	Debt as Percent of:		Debt Service as a Percent of Disposable Income		
Year	Personal Income	Total Assets*	Total Debt	Consumer Debt	Mortgage
1949	29.8%	6.3%	n.a.	n.a.	n.a.
1967	60.7	12.2	15.7%	11.8%	3.9%
1973	59.0	13.0	15.5	11.5	4.0
1979	64.8	13.6	15.7	10.8	4.9
1989	79.5	15.5	18.0	11.2	6.9
1993	81.5	16.2	16.1	10.3	5.9

* Financial assets (including pension funds and insurance), real estate, and consumer durables.

Source: Authors' analysis.

Increased Racial Wealth Gaps

We already know that blacks and other minorities tend to have lower incomes than whites. Nonwhites lag even further behind in the accumulation of wealth. As **Table 5.11** shows, the average income of a nonwhite household was 63% of that of an average white household in 1967, a ratio that roughly prevailed in both 1983 and 1989. (Looking at median incomes shows the same failure to close the racial income gap.)

The gap in average wealth between minority and white households is even larger than it is for income, with the average wealth of nonwhite families just 29% of that of white families in 1989. There was significant progress in lessening racial wealth inequality in the 1962-83 period, as nonwhite mean wealth grew from 12% to 24% of white mean wealth, and further progress between 1983 and 1989. When the wealth of the median white and nonwhite households is compared, however, the racial wealth gap is seen to widen in the 1983 to 1989 period. The differences between the trends in the median and mean comparisons of the racial wage gap reflect the fact that wealth inequality grew more among nonwhites than whites.

The gap in racial wealth holding is pervasive. At every level of income

TABLE 5.11
Ratio of Household Income and Wealth, Nonwhite to White Families, 1940-89

Year	Ratio of Nonwhite to White: Means	Ratio of Nonwhite to White: Medians
Household Income		
1967	63%	58%
1983	62	57
1989	63	59
Net Worth		
1962	12%	4%
1983	24	9
1989	29	5
Homeownership Rates		
Census of Population		
1940	52%	
1950	61	
1960	60	
1970	64	
1980	65	
1985	64	
Federal Reserve Board Survey Data		
1962	62%	
1983	62	
1989	63	

Source: Wolff (1994).

(except $10,000 to $19,999, where the difference is smaller) a minority family holds far less wealth than a white family (**Table 5.12**). Likewise, a racial wealth gap is evident at every age level, with the gap larger the older the household head, suggesting that elderly nonwhite families have significantly fewer resources than whites to ensure their well-being in retirement. Racial wealth differences are also present in married-couple families and those headed by a single male or female.

TABLE 5.12
Net Worth by Race and Household Characteristics, 1989
(1989 Dollars)

	Average Net Worth ($000)		
Household Group	Whites	Nonwhites	Ratio
All	$241	$70	29%
Income Class			
Less than $10,000	$37	$9	24%
$10,000 - 19,999	75	68	90
$20,000 - 29,999	98	32	33
$30,000 - 49,999	150	81	54
$50,000 or more	600	312	52
Age Class of Household Head			
Under 35 years	$63	$37	58%
35-44	164	63	39
45-54	344	125	36
55-64	377	130	34
65-74	389	54	14
75 and over	311	43	14
Household Type			
Married Couples	$323	$113	35%
Single, Male Head	135	84	62
Single, Female Head	111	22	20

Source: Wolff (1994).

Conclusion

Trends in the growth and distribution of wealth are comparable to those for income. Both the after-tax income and the wealth of the bottom 40% of families declined over the 1980s, and the greatest share of both increased wealth and income accrued to the upper 1% of families. Thus, by 1989 the bulk of families not only held a lower share of total wealth, they had less wealth to fall back on in case of a fiscal or medical emergency or to finance large expenditures such as a college education. In the early 1990s, middle-class and poor families saw their wealth reduced further.

Chapter 6

Poverty: High Rates Unresponsive to Economic Expansion

The previous chapters have documented the winners and losers in the highly uneven growth periods of the 1980s and early 1990s. This chapter focuses on the experience of the poorest members of society: those persons and families whose economic situations are the most precarious.

Despite the economic growth in the economy from 1983 to 1989, poverty rates fell less than prior history would suggest. As expected, poverty increased in the recession of 1990-91, but the most recent data (for 1993) show poverty rates to have held despite the recovery. (In past recoveries poverty rates had fallen by this point in the business cycle.) This chapter provides extensive evidence that the particular structure of economic growth over the 1980s and early 1990s has severed the historic link between growth and falling poverty. The rising economic tide has lifted the yachts, but the rowboats have foundered.

We examine in detail a number of the arguments offered to explain the unresponsive poverty rates and find that the facts do not support the assertions. Specifically, some critics have claimed that poverty was mismeasured, and that the economic condition of the poor actually improved over the decade. However, our analysis of both the government's official measurement and a series of more conceptually satisfying ways to measure poverty reveals that the general finding of recent high levels of poverty is valid no matter which measure is used.

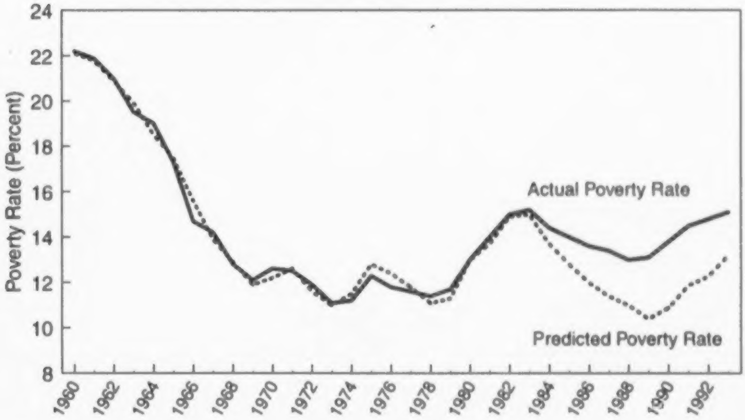
Others argue that the poor themselves are to blame, either because they formed families more likely to be poor regardless of the economic expansion (i.e., single-headed families), or because they failed to exploit the labor-market opportunities that prevailed over the decade. To explore these issues, we analyze the perceived problem of female-headed family formation, examine the question of whether welfare programs have created incentives that have increased poverty, and explore the issue of whether the poor chose not to work. We find that the data do not support these explanations for the high and intractable poverty rates evident throughout the economic expansion of the 1980s.

In fact, the problems analyzed in previous chapters—the heightened inequality of the income distribution, lessened progressivity of the tax system, and, in particular, failing wages—all conspired to keep poverty rates historically high throughout the 1980s and into the 1990s. Moreover, the "safety net" (the social provision of assistance to those in poverty) grew less effective at providing relief to the poor.

Background: The Failure of Economic Growth

The failed relationship between poverty and economic growth that began in the 1980s is portrayed graphically in **Figure 6A**. The dotted line in the figure represents a statistical model of the poverty rate over time, based on economic variables—unemployment, inflation, income, and government

Figure 6A
Predicted vs. Actual Poverty Rates, 1960-93*



* Data for 1989 and 1992 were revised using 1990 census weights. Data for 1991 and 1992 are interpolations based upon this revision.

Sources: U.S. Bureau of the Census (1994) and Blank (1991).

transfers—historically correlated with poverty rates. The bold line is actual poverty rates. For the period 1983-93, the dotted line represents forecasted values based on the pre-1983 relationships between poverty and the contemporary values of the economic variables noted above.

Particularly notable about Figure 6A is the divergence of forecasted and actual values in the 1980s. The model tracks poverty extremely well up until 1983 (the beginning of the 1980s expansion), when it begins to forecast a much steeper fall in poverty rates than actually occurred. In other words, a major shift in the relationship between economic growth and poverty occurred in the decade such that an economic recovery failed to reduce poverty to the same extent as experienced in earlier periods of growth.

For the years shown in **Table 6.1**, the predicted poverty rates never diverge more than 0.3 percentage points from the actual rates until after 1983. These findings show that, based on the way economic growth has affected poverty in the past, the rates should have fallen by 4.6 percentage points

TABLE 6.1
Percent and Number in Poverty, 1960-93, Actual and Predicted Values

Year	Actual Poverty Rates	Predicted Poverty Rates*	Number in Poverty (000)
1960	22.2%	22.1%	39,851
1967	14.2	14.0	27,769
1973	11.1	11.0	22,973
1979	11.7	11.4	26,072
1983	15.2	15.0	35,303
1989r**	13.1	10.4	32,415
1993r**	15.1	13.2	39,265
Averages Over Business Cycles			
1960-67	18.7%	18.7%	
1967-73	12.5	12.3	
1973-79	11.6	11.7	
1979-89r**	13.7	12.7	
1989-93r**	14.3	11.7	

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* Poverty rates as predicted by a set of economic variables over the 1959-83 period.
** r indicates revision using 1990 census weights.

Source: Authors' analysis of U.S. Bureau of the Census (1993) and Blank (1991).

For detailed information on table sources, see Table Notes, page 383.

between 1983 and 1989, from 15.0% to 10.4%. However, the actual rates fell only 2.1 points, from 15.2% to 13.1%. In the most recent period, 1989-93, the model captures the recession-induced turning point in the trend, but it continues to forecast lower poverty rates. The causes of this divergence between the predicted and actual poverty rates are unique to the growth period of the 1980s and will be examined throughout the chapter.

Measuring the Extent of Poverty

Table 6.1 also shows actual poverty rates at peaks in the business cycle since 1960 and for 1993, the last year of data availability. Poverty was exceptionally high in the late 1950s but began falling in the 1960s, from 22.2% in 1960 to 14.2% in 1967, in response to economic growth and more generous government transfers. Poverty rates continued to fall during the early 1970s, hitting a low of 11.1% in 1973, before climbing again. On average, poverty rates were higher throughout the expansions of the 1980s (13.7%) and early 1990s (14.3%) than over the growth periods from 1967 onward, when they ranged from 12.5% (1967-73) to 11.6% (1973-79).

While the rates in Table 6.1 are the most commonly cited measures of poverty, there are a variety of measurement methods. The rates presented so far are based on a comparison of family pre-tax, post-transfer (i.e., cash transfers such as unemployment insurance, Social Security, and public assistance payments) income against poverty thresholds, adjusted for family size and price changes. In other words, the Census Bureau categorizes as poor those families with cash incomes below the poverty line for that size family. While there are a number of conceptual problems with this definition of poverty (e.g., it ignores the value of noncash benefits such as food and medical care, and it has never been updated to reflect new consumption patterns), the official poverty measures have a long history and are a widely used measure of economic despair. Other, more conceptually satisfying measurements are presented below. However, regardless of the choice of measure, the poverty trends they expose are similar.

Alternative Measurements of Poverty

In the analysis of poverty, the issue arises as to whether poverty is being appropriately defined and measured. The next few tables examine some of the ways the official Census Bureau's poverty measure both overstates and understates poverty. We present other measures as well, each one stressing a different concept of what constitutes poverty. However, no matter which concept of poverty is used, the trend documented in Figure 6A and Table 6.1 reappears.

A common criticism of the official poverty lines is that they no longer reflect even minimal levels of consumption and thus understate the extent of poverty. The original consumption data were collected in 1955, when it was assumed that poor families spent one-third of their income on food (thus assuming that families could purchase all other necessities for twice what they spent on food). The poverty lines were then constructed by multiplying the Department of Agriculture's minimum food budgets for different sized families by three. Patterns of consumption, however, have changed a great deal since 1955. For example, the proportion of income spent on food has shifted over time, with the average family spending a smaller proportion of the family budget on this necessity and, in turn, a larger proportion on other necessities. Therefore, if the poverty lines were recalculated today, they would be higher (as would poverty rates), since the food budget would be multiplied by a larger number than three.

Table 6.2 presents two alternative measures of poverty rates based on updated information on consumption of food and housing. (Housing consumption has also shifted over time, accounting for a larger percentage of family income than in the past.) The available data are for 1977 and 1988 (the most recent data of this type). When the increased relative cost of housing is factored into the poverty thresholds, the poverty rate in 1988 rises to 23.0%, a full 10 points above the official measure. When considering the changing proportion of the family budget devoted to food expenditures, the

TABLE 6.2
Consumption-Based Poverty Measures, 1977-88

	Poverty Rate		Point Change
Consumption Standard	1977	1988*	1977-88
Official Measure	11.6%	13.0%	1.4
Housing Consumption	20.7	23.0	2.3
Food Consumption	18.0	25.8	7.8

* Latest year of data availability.

Source: Ruggles (1992).

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rate is even higher (25.8%). Furthermore, the growth of poverty over the 1980s is even more dramatic when these consumption shifts are taken into account. Thus, changing consumption patterns imply that the official poverty measures severely understate the extent and growth of poverty.

As noted above, the official measure does not factor in the value of noncash benefits, such as food stamps, housing assistance, and medical benefits, and thus overstates the extent of poverty. **Table 6.3** shows what poverty rates would be if the market value of food and housing benefits were included in recipients' incomes. Medical benefits are omitted since they are not a common part of everyday consumption, and their inclusion would have the perverse effect of making the ill appear less poor. Although the inclusion of food and housing benefits lowers the absolute rates in each period, the increase in poverty over the period is slightly greater using the broader measure.

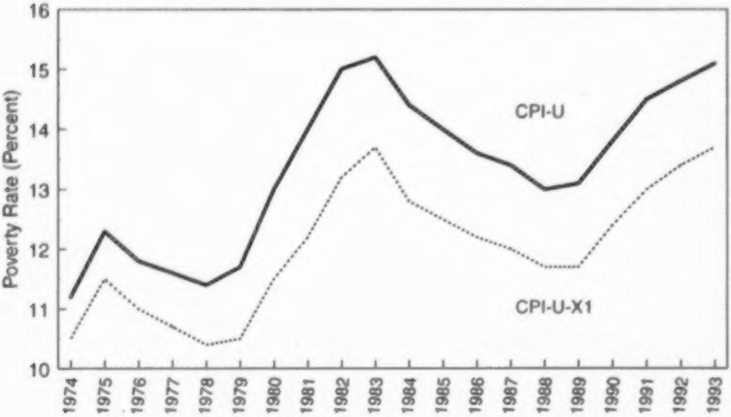
TABLE 6.3
Poverty Rates When (Nonmedical) Noncash Benefits Are Included, 1979-91

Year	Current Definition	Plus Market Value of Food and Housing Benefits
1979	11.7%	9.6%
1989	12.8	11.2
1991	14.2	12.4
Change		
1979-89	1.1	1.6
1979-91	2.5	2.8

Source: 1993 Green Book.

As noted above, the official poverty lines are indexed for inflation. However, some analysts claim that the price index used to adjust the poverty lines overstated inflation in the 1970s and early 1980s, and thereby overestimated real poverty rates. **Figure 6B** tracks poverty rates for the 1974-93 period by using an alternative price index, CPI-U-X1, which is considered a more conservative measure of inflation. (See the Documentation and Methodology section for a discussion of the differences in these deflators.) As

FIGURE 6B
Poverty Rates by Price Index, 1974-93*



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* Data for 1989 and 1992 were revised using 1990 census weights. Data for 1990 and 1991 are interpolations based upon this revision.

Source: U.S. Bureau of the Census (1994) and Blank (1991).

expected, the more conservative price index leads to lower measured poverty rates. However, regardless of the price index chosen to adjust the poverty lines for price changes, Figure 6B shows that poverty has risen since 1979 despite overall income growth.

Another important indicator of poverty is *relative* economic well-being. A conceptual shortcoming of the absolute poverty lines used in the above tables is that they are adjusted only for inflation; they do not reflect overall income growth. The poverty lines are fixed levels of income that represent a particular standard of living (level of consumption) at a point in time. However, as average income grows over time and standards of living rise, the economic "distance" between the officially poor and the rest of society expands. While the earliest poverty lines were in fact close to 50% of the median family income for a given family size, they have since fallen to about 35%.

Table 6.4 presents measures of poverty that adjust for economic growth by measuring poverty *relative* to the median family income (which changes yearly). As would be expected (since median family income has grown faster than prices), the poverty rates at one-half the median are substantially higher than the absolute rates in Table 6.1. For example, whereas 14.5% of the popu-

TABLE 6.4
Percent of Persons With Low Relative Income, 1969-92, Adjusted for Family Size

	Relative-Income Poverty Measures			
Year	Less Than 1/4 the Median	1/4 to 1/2 the Median	Less than 1/2 the Median	Official Measure
1969	5.5%	12.4%	17.9%	12.1%
1979	6.7	13.3	20.0	11.7
1989	8.3	13.7	22.0	12.8
1992	9.1	13.6	22.7	14.5

Source: U.S. Bureau of the Census (various years).

lation was poor according to the official, or absolute, poverty measure in 1992, 22.7% of all persons were in families with incomes below one-half of the median family income. Furthermore, that percentage has grown since 1979 (from 20.0%), and the increase has been driven almost exclusively by the rapid rise in the percentage of families earning less than one-quarter of the median—from 6.7% in 1979 to 9.1% in 1992.

The Poor Get Poorer

The depth of poverty at a point in time is another useful gauge of how the poor are faring. As **Table 6.5** shows, there has not only been a growth in poverty; the poor have also become poorer. This is evident in measures of the so-called "poverty gap," or the distance, in either aggregate or average dollar amounts, of a person or family from the poverty threshold. For instance, in 1993 the average poor family had an income $5,960 below the poverty line. The aggregate poverty gap, which was over $50 billion in 1992, is the sum of every poor family's income deficit. (Due to the changes in the way the Census Bureau collected and weighted the 1993 data, these figures are not strictly comparable to pre-93 data. Despite these changes, it is clear that the poverty gap deepened from 1992 to 1993.)

Looking again at trends, the aggregate family poverty gap actually shrank by 2.6% a year between 1967 and 1973. Since poverty rates also fell over this period, the trend led to a smaller share of families who were less poor. In the ensuing periods, however, the aggregate gap for families grew at successively faster rates. Note that the mean gap grew at a steady rate, suggesting increases in the aggregate gap were due either to increasing population or in-

TABLE 6.5
Poverty Gap: Aggregate and Mean, 1967-93
(1993 Dollars)

	Families		Persons Not in Families	
Year	Aggregate Poverty Gap (millions)	Mean Poverty Gap	Aggregate Poverty Gap (millions)	Mean Poverty Gap
1967	$29,011	$5,118	$15,751	$3,150
1973	24,750	5,126	14,175	3,034
1979	29,312	5,367	17,075	2,973
1983	46,112	5,839	21,334	2,536
1989	40,869	5,790	22,360	3,305
1992	47,148	5,923	26,485	3,314
1993r*	50,022	5,960	29,475	3,514
Annual Growth Rates				
1967-73	-2.6	0.0	-1.8	-0.6
1973-79	2.8	0.8	3.1	-0.3
1979-89	3.3	0.8	2.7	1.1
1989-92	4.8	0.8	5.6	0.1

* r indicates revision using 1990 census weights.

Source: Authors' analysis of Center for Budget and Policy Priorities (1993) data.

creasing poverty rates (or some combination thereof). The increase in the most recent period (1989-93), however, is due to the increase in poverty rates, which grew much faster than population. The increase was larger for individuals not in families: the mean gap for this group barely changed since 1989, but the aggregate gap has grown at an annual rate of 5.6%.

Table 6.6 shows another measure of the depth of poverty: the percentage of the poor below 50% of the poverty line, which in 1993 meant a pre-tax income of $7,381 for a family of four. In 1979, slightly less than one-third (30.2%) of the poor were in "deep poverty." By 1983, this proportion had approached two-fifths (38.5%), where it essentially held throughout the decade. As expected, the share of deeply poor persons expanded in the recession that began in 1990, but it continued to expand in the recovery and stood at 40.7% in 1993, the highest level in the series. Thus, not only have poverty rates failed to fall in the context of recent economic expansions (as Figure 6A and Table 6.1 show), but more of the poor have fallen into deep poverty.

TABLE 6.6
Persons Below 50% of the Poverty Level, 1975-93

Year	Percent of All Poor	Number of Persons(000)
1975	29.9%	7,733
1979	30.2	8,340
1983	38.5	13,590
1989	38.0	11,983
1990	38.5	12,914
1991	39.4	14,059
1992	40.7	15,020
1993r*	40.7	15,971

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* r indicates revision using 1990 census weights.

Source: Center for Budget and Policy Priorities (1993).

Poverty Spells: The Length of Time Spent in Poverty

All of the measures of poverty examined thus far have been "point-in-time" measures. That is, they compare those in poverty (using different definitions) at one point in time to those in poverty at a different point. This approach fails to answer important questions about the dynamics of poverty. How much mobility exists in the population of poor persons? Are most poor persons in poverty for a short or a long period? What personal characteristics are associated with those experiencing short versus long spells of poverty?

Researchers have analyzed these questions and found a good deal of turnover in the poverty population; chronic poverty is the exception, not the rule. As the next table shows, most "poverty spells" (continuous periods in which income is below the poverty line) are relatively short, although there does exist a small group of long-term poor.

The percentages in **Table 6.7** can be interpreted as answering the following question: "Of those persons just beginning a poverty spell, what percentage will leave poverty after a given time period?" The table shows the distribution of poverty spells of persons over the 1970-87 period (the most recent data available) and finds the majority of poverty spells lasted for just one (53.2%) or two (16.6%) years. Only a minority of spells (17.3%) last for five or more years.

TABLE 6.7
Distribution of Poverty Spells for Persons Entering Poverty, 1970-87

Spell Length (Years)	Percent of Persons Completing Poverty Spells
1	53.2%
2	16.6
3	8.1
4	4.9
5	3.3
6	2.3
7	1.8
8	1.3
9	0.8
10 or More	7.8

Source: Authors' analysis of Stevens (1993).

The high rates of turnover in the poverty population implied by Table 6.7 suggest that, for most persons entering poverty, being poor is a temporary condition. In fact, other research into poverty dynamics over the 1970s found that as much as one-quarter of the U.S. population was poor at some point within a 10-year period, usually for a short time. Recall from Chapter 1 (Table 1.22) that the probability of falling out of the middle class into low-income status rose in the 1980s. Such findings debunk the notion that the majority of the poor are chronically impoverished and exhibit long-term dependency on government assistance. (Research on "welfare spells," presented next, shows findings similar to the above.) Furthermore, as shown in the following table, the events that most commonly cause a poverty spell are phenomena common to most working persons (e.g., job or earnings loss, childbirth). Most persons experiencing such events will be poor for a relatively short time.

The events that cause a poverty spell to begin are given in **Table 6.8**, covering two time periods, 1970-79 and 1980-87. As noted, the most common poverty-causing event is loss of earnings, and the share of such poverty-inducing losses grew over time, from 37.1% in 1970-79 to 41.1% in the later period. Otherwise, spells are generally related to demographic events such as the formation of a new family (child becomes head of family or wife) or the birth of a child.

TABLE 6.8
Events Leading to Poverty Spells, 1970-87

Primary Reason for Spell Beginning	Percent of Beginnings 1970-79	 1980-87
Decrease in Head's Earnings	37.1%	41.1%
Decrease in Unearned Income	15.3	13.0
Born Into Poverty	8.1	10.2
Decrease in Others' Earnings	9.7	10.2
Child Becomes Head of Family or Wife	10.7	9.7
Decrease in Wife's Earnings	4.8	5.1
Wife Becomes Female Head	4.2	4.2
Child of Male Head Becomes Child of Female Head	5.2	3.7
Addition of New Family Member	4.8	2.8

Source: Stevens (1993).

The notion of dependency, alluded to above, is also salient in debates over welfare, or government assistance to the poorest families with children. There exists a popular but incorrect notion that these families, the vast majority of which are headed by females, are excessively dependent on public assistance. **Table 6.9** challenges this notion. Column 1 shows the total percent of income (TPI) for women age 15-44 that was derived from welfare in two time periods, 1974-80 and 1981-87. For all women, the share of total income from welfare was only 2.7% in the first seven-year period, and slightly less in the later period. While a slightly larger share of women were ever on welfare in the later period (13.2% versus 11.6%), their share of income from welfare and the average number of years on welfare actually fell in the 1980s, contrary to the popular impression of increased welfare dependency. The decline in the share of income from welfare among those "ever on" is evident in each age group, particularly among women 35-44, for whom it fell by half. The slight fall in the average number of years of welfare was driven by reduced time on welfare by older women.

A final measure of poverty dynamics shows that persistent poverty is more common in the United States than in other industrialized countries. (This issue is examined at length in Chapter 8.) **Figure 6C** shows the percentage of households with children that were poor in every year of a three-year study in the mid-1980s. (Poverty here is measured in relative terms, i.e., as

TABLE 6.9
Trends in Welfare Dependency Among Women, Age 15-44, 1974-87

	All Women		Women Ever on Welfare	
Age at Start of Period	TPI*	Percent Ever On	TPI*	Number of Years On
Ages 15-44				
1974-80	2.7%	11.6%	23.3%	3.3
1981-87	2.5	13.2	18.9	3.2
Ages 15-24				
1974-80	3.3	15.1	21.9	3.1
1981-87	4.0	18.7	21.4	3.3
Ages 25-34				
1974-80	2.3	9.6	24.0	3.5
1981-87	2.1	11.0	19.1	3.3
Ages 35-44				
1974-80	2.3	8.6	26.7	3.5
1981-87	1.2	9.3	12.9	2.9

---

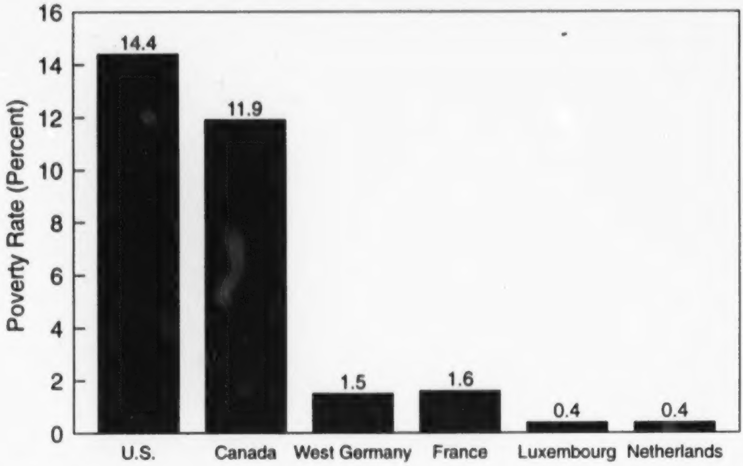
* TPI: Total percent of income from either AFDC or General Assistance.

Source: Moffitt and Gottschalk (1994).

50% of the median income.) In the United States, 14.4% of households with children were poor throughout the three-year study. Only Canada had a similarly high rate, at 11.9%. The other countries in the study had rates well below that of the United States, due in large part to their casting of a more effective safety net under society's poorest members.

Through this examination of alternative measures of poverty, we see that some measures—the inclusion of in-kind benefits and the alternate price index—make the official measure appear to overstate poverty. Other measures—consumption adjustments and relative measures—make the official measure appear to understate poverty. Furthermore, changes in the poverty gap, the incidence of deep poverty, and poverty dynamics are beyond the scope of the official measure. However, none of these alternative measures changes the fundamental finding regarding a structural shift toward higher poverty rates. Given the wide use of the official measure, and the fact that it adequately captures poverty trends, we will use it throughout the rest of this chapter, except where noted.

FIGURE 6C
Persistent Poverty in Industrialized Countries: Households With Children, Mid-1980s



Source: McFate (1991).

The Poverty Status of Different Demographic Groups

Certain demographic groups are more vulnerable to poverty than others. Members of minority groups, families headed by an unmarried female, and children are at the highest risk of poverty. The poverty problem of the elderly, though historically significant, has been ameliorated to a degree by government transfers.

Table 6.10 shows the official poverty rate for different racial and ethnic categories. While both white and black poverty rates fell from 1967 to 1973, a wide differential remains. In all cases, black and Hispanic poverty is more extensive than that of whites. The black poverty rate has been about three times that of whites since 1979, while the Hispanic rate climbed from 21.9% in 1973 to 30.6% in 1993.

Table 6.11 shows poverty rates for children by race/ethnicity. Child poverty grew in all racial categories from 1979 to 1989 and again from 1989 to 1992. (Once again, because of data differences 1989-93 comparisons are inappropriate.) Young Hispanic children (under six) experienced the steepest growth in poverty, gaining 10.4 percentage points between 1979 and 1989.

TABLE 6.10
Poverty by Race/Ethnicity, 1967-93

Year	White	Black	Hispanic
1967	11.0%	39.3%	n.a.
1973	8.4	31.4	21.9%
1979	9.0	31.0	21.8
1989r*	10.2	30.8	26.3
1993r*	12.2	33.1	30.6

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* r indicates revision using 1990 census weights.

Source: U.S. Bureau of the Census (1993).

TABLE 6.11
Percent of Children in Poverty, by Race, 1979-93

Year	Total	White	Black	Hispanic
Children Under 18				
1979	16.4%	11.8%	41.2%	28.0%
1989	19.6	14.8	43.7	36.2
1992	21.9	16.9	46.6	39.9
1993r*	22.7	17.8	46.1	40.9
Point Change				
1979-89	3.2	3.0	2.5	8.2
1989-92	2.3	2.1	2.9	3.7
Children Under 6				
1979	18.1%	13.3%	43.6%	29.2%
1989	22.5	17.1	50.1	39.6
1992	25.7	20.2	53.5	43.7
1993r*	25.6	20.1	51.7	43.4
Point Change				
1979-89	4.4	3.8	6.5	10.4
1989-92	3.2	3.1	3.4	4.1

---

* r indicates revision using 1990 census weights.

Sources: Center for Budget and Policy Priorities (1993); and U.S. Bureau of the Census (1994).

By 1993, more than one out of every five children was poor (22.7%). For children under six years old, the rate was even higher, reaching 25.6% in 1993. Black children have the highest poverty rates, and their poverty grew more over the three-year period 1989-92 than over the 10-year period 1979-89. Perhaps the most alarming statistic in the table refers to young black children: in 1993 over half of those under six were poor (51.7%).

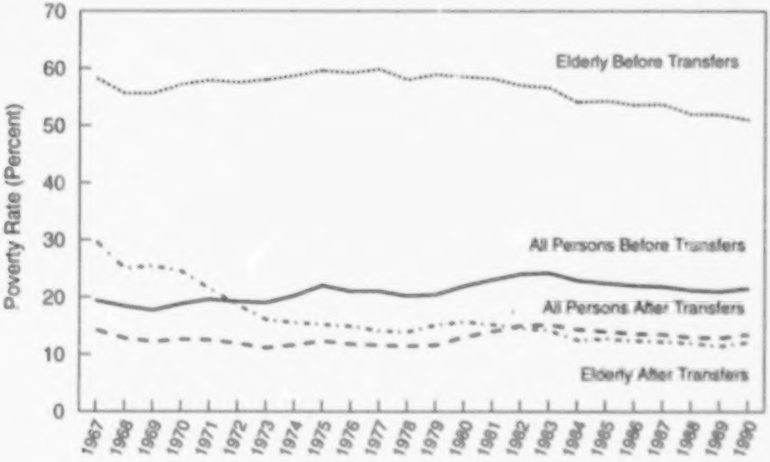
As noted above, the poverty of the elderly has been greatly reduced by government transfers. **Table 6.12** and **Figure 6D** contrast the "before-transfer" poverty rate, which is the rate that would prevail if there were no government cash assistance, with the actual or "after-transfer" poverty rate, which includes such assistance. The reduction in poverty among the elderly has come largely from expanded government transfer payments, particularly between 1967 and 1973. During this period, the before-transfer poverty rate dipped slightly, from 58.3% to 58.0%, but higher Social Security benefits virtually halved after-transfer poverty, from 29.7% to 16.1%. In 1989, the latest peak year for which data of this type are available, more than half of the elderly would have been poor without government transfer programs. The effect of government benefits in 1989 was to dramatically reduce the poverty rate among the elderly from 51.9% to 11.4%. Yet, as is shown below, transfers have grown less effective in reducing poverty among other family types.

TABLE 6.12
Poverty Among the Elderly and All Persons Before and After Transfers, 1967-90

	Poverty Rate Among:			
	All Persons		The Elderly	
Year	Before Transfers	After Transfers	Before Transfers	After Transfers
1967	19.4%	14.3%	58.3%	29.7%
1973	19.0	11.1	58.0	16.1
1979	20.4	11.6	58.9	15.1
1989	20.9	12.8	51.9	11.4
1990	21.5	13.5	51.0	12.1

Source: Danziger and Weinberg (1992).

FIGURE 6D
Poverty Before and After Transfers:
Elderly vs. All Persons, 1967-90



Source: Danziger and Weinberg (1992).

Table 6.13 presents poverty rates of families with children, sorted by the education level of the family head, for the period 1973-92. As expected, as the education level of the family head rises, the likelihood that the family is poor falls. Among families headed by a person with less than a high school degree, poverty grew sharply between 1973 and 1992, rising from 21.3% to 43.9%. There was also sizeable growth in poverty among families headed by a high school graduate or someone with one to three years of college. For example, by the end of the period, close to one-fifth of families with children headed by a high school graduate were poor. Thus, being poor is clearly not limited to those insufficiently educated to enter the "mainstream economy."

Note that during the downturn and recovery from 1989 to 1992 poverty grew a comparable amount among those families headed by a high school graduate, as it did among families headed by a person not completing high school. In prior periods, the poverty of families headed by high school graduates (35.3% of families with children in 1993) grew more slowly than it did among families headed by someone with less than a high school education.

TABLE 6.13
Poverty Rates of Families With Children by Education Level of Family Head, 1973-92

Education Level of Family Head	1973	1979	1989	1992	Percentage-Point Change 1973-79	1979-89	1989-92
Less Than High School	21.3%	26.5%	39.0%	43.9%	5.2	12.5	4.9
High School	7.6	10.3	15.3	19.3	2.7	5.0	4.0
Some College	5.5	6.7	9.0	12.0	1.2	2.3	3.0
College and Above	1.8	2.5	2.7	2.9	0.7	0.2	0.2
All	10.6	12.1	15.0	17.3	1.5	2.9	2.3

Source: Sum, Fogg, and Fogg (1994).

As the previous tables have shown, certain demographic characteristics (e.g., gender, race, education level, marital status) significantly affect the probability of poverty. In particular, women family heads with less than a high school degree have historically had poverty rates well above the average. **Table 6.14** presents these poverty rates by race. Because of data limitations, we focus on women age 25 and over; however, since young women are at higher risk, we include them in the analysis as an addendum.

The first line of Table 6.14 shows that race is an important determinant of female poverty status, with black women almost three times as likely to be poor than white women. Single women who head households are significantly more likely to be poor than the average female: over one-quarter of the single white women who headed households in 1993 were poor; for blacks, the poverty rate was 46.7%. Having less than a high school degree led to similarly high rates of poverty. Note, however, that the poverty rate of all black females was higher than that for white high school dropouts, underscoring the dominant effect of race as a poverty determinant.

Combining these demographic characteristics greatly increases the likelihood of being poor. Close to two-thirds (63.1%) of the black females who were both single heads of household and less than high school educated were poor; for Hispanic women, the rate was 59.6%. Among these women with children, poverty rates go up to 75.0% and 70.4%, respectively.

Youth is associated with even higher poverty rates. For white females age 18-21 with children (across education levels), the rate was 86.1%. Blacks in this category were virtually assured of poverty status; fewer than 14% were nonpoor in 1993.

TABLE 6.14
High Risk Factors for Poverty, Females 25 and Over, 1993

	White	Black	Hispanic
All	11.2%	29.9%	27.3%
(1) Single Heads of Household	25.8	46.7	48.7
(2) Less Than High School Degree	28.2	48.8	40.4
(1) and (2)	42.8	63.1	59.6
(1) and (2) with Children	60.9	75.0	70.4
Addendum			
Single Heads of Household With Children, 18-21	86.1	86.5	n.a.

Source: Authors' analysis of Bureau of the Census (1994) data.

Family Structure and Poverty

Family structure has historically been an important determinant of poverty status, since certain family types are more vulnerable to poverty than others. To what extent are poverty rates and family structure changes *causally* related? To what degree are the high and intractable poverty rates documented above driven by individuals' choices to form vulnerable family types?

Table 6.15 looks at these questions by showing the percentage of persons in female-headed families, married-couple and male-headed families, and not in families (i.e., single persons) from 1967 to 1993. The table also shows the poverty rates for each group in each time period, along with percentage-point changes over time. (Again, comparisons to 1993 are precluded because of data-collection changes.)

Persons in female-headed families and persons not in families are more likely to be poor than persons in married-couple or male-headed families. In 1993, 38.7% of persons in families headed by a woman were poor. For persons not in families in 1993, the poverty rate (22.1%) was also substantially higher than the rate for all persons. Those in married-couple and male-headed families are the least likely to be poor; since 1967 their poverty rates have stayed below 10%.

Over time, the distribution of family types has shifted toward family structures more vulnerable to poverty. The percentage of persons in married-

TABLE 6.15
Changing Family Structure and Poverty, 1967-93

	Percent of Persons in:			
Year	Female-Headed Families	Married-Couple & Male-Headed Families*	Not Living in Families	Total
1967	9.1%	84.2%	6.7%	100.0%
1973	10.5	80.7	8.8	100.0
1979	12.1	76.2	11.7	100.0
1989	13.2	72.5	14.3	100.0
1992	14.0	71.5	14.5	100.0
1993r**	14.6	70.7	14.7	100.0
Point Changes				
1967-79	3.0	-8.0	5.0	0.0
1979-89	1.1	-3.7	2.6	0.0
1989-92	0.8	-1.0	0.2	0.0

Year	Poverty Rate of Persons in Above Categories			All Persons
1967	38.8%	9.6%	38.1%	14.2%
1973	37.5	6.0	25.6	11.1
1979	34.9	6.4	21.9	11.7
1989	35.9	7.3	19.2	12.8
1992	38.5	8.4	21.8	14.5
1993r**	38.7	8.9	22.1	15.1
Point Changes				
1967-79	-3.9	-3.2	-16.2	-2.5
1979-89	1.0	0.9	-2.7	1.1
1989-92	2.6	1.0	2.5	1.7

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* Including unrelated subfamilies since 1979.

** r indicates revision using 1990 census weights.

Source: U.S. Bureau of the Census, various years.

couple and male-headed families, which have the lowest poverty rates, has consistently fallen, from 84.2% in 1967 to 70.7% in 1993. Conversely, there has been a consistent expansion in female-headed families and an even faster growth of singles.

Turning to the poverty trends of these different groups, all family types saw their poverty rates fall between 1967 and 1979, with single persons showing the largest drop (16.2 points). This trend reversed between 1979 and 1989, when poverty grew comparably for persons in female-headed families (1.0 points) and in married-couple and male-headed families (0.9 points); it fell for individuals more slowly. Between 1989 and 1992, poverty grew at a faster rate for all groups, particularly for persons in female-headed families and for individuals.

What does Table 6.15 reveal about the relationship between demographic shifts and changes in poverty rates? The *prima facie* evidence is mixed. On the one hand, it is clear that there has been a compositional shift to families more vulnerable to poverty. However, when the demographic shifts were occurring most rapidly, in the 1967-79 period, the overall poverty rates declined, from 14.2% to 11.7%, and poverty fell among persons in female-headed families and among singles. Conversely, when demographic forces slowed over the 1980s, the poverty trend reversed. Moreover, poverty also grew among the family type least vulnerable to poverty: married-couple families. Thus, while demographic shifts to family types with higher poverty rates played a role in the high poverty rates of the 1980s, the extent of that role is unclear. It is to this issue we now turn.

Quantifying the Role of Demographics

To begin, we assume that poverty rates are influenced by changes in demographics, such as changes in the distribution of families by marital status or race of the family head; changes in economic factors, like lower wages and benefits; and the education level of the family head (see Table 6.13). We would expect these factors to "compete" with each other throughout the period under examination, 1973-92. For example, the shift to more vulnerable family types, ongoing throughout the period (though relatively slower in the 1980s than in the 1970s) should be poverty inducing, while higher education levels across all family types should lower family poverty rates. Equally important are the effects of wage trends and other economic factors on the poverty rates of particular family types with a certain education level—in other words, "within-group" shifts. **Table 6.16** quantifies these separate factors for families with children.

Column 2 shows that, while demographic shifts (i.e., the shift toward fewer white, married-couple families) were important in both periods, their relative importance was greater in the earlier period, when they led to a 0.29 percentage-point per-year increase in poverty rates of families with

TABLE 6.16
Changes in Demographic Structure and Poverty for Families With Children, 1973-92
(Annualized Change Rates)

		Change Due to Demographics		
Period	Change in Poverty Rate	Family Type*	Education**	Change Due to Other Factors***
1973-79	0.25	0.29	-0.18	0.14
1979-92	0.40	0.21	-0.19	0.38

---

* Increase in poverty due exclusively to shifts toward family types more vulnerable to poverty (including racial composition).

** Fall in poverty due to educational upgrading of family head.

*** Change in family poverty rates due to poverty rate changes *within* demographic groups defined by race, education level, and marital status of family head.

Source: Authors' analysis of Sum, Fogg, and Fogg (1994).

children. In fact, poverty-inducing demographic shifts more than explain the rise in family poverty over the 1970s. During this period, educational upgrading among family heads lowered poverty rates by 0.18 points per year, while other factors contributed to a 0.14 point rise per year, about one-half the annual growth rate generated by demographics.

Between 1979 and 1992, however, the major forces driving the increase in poverty rates were nondemographic factors, primarily wages and benefits. In this later period, the shift toward more vulnerable family types caused poverty to rise 0.21 percentage points per year, and educational upgrading reduced poverty at about the same rate as in the 1973-79 period. But other factors caused poverty rates to grow at 0.38 points per year, almost three times the rates of the prior period.

This decomposition exercise shows that, while the shift to more poverty-prone family types has continued to create upward pressure on poverty rates, that pressure has lessened (i.e., it has become responsible for a smaller share of the increase) throughout the 1980s and early 1990s. The most important factor in rising poverty appears to be the failure of economic forces to lessen poverty.

The Poverty of Female-Headed Families

Female-headed families, identified above as particularly vulnerable to poverty, are stereotypically thought mostly to consist of black women who have had children out of wedlock. The next few tables examine these beliefs and find that mother-only family poverty is not exclusively a minority problem, nor are most single mothers never-married women.

Table 6.17 examines the trend in poverty rates for female-headed families by race and Hispanic origin. Overall, their poverty rates have changed little since 1973. Furthermore, while minority female-headed families have the highest poverty rates, their rates declined between 1979 and 1989, while those for whites rose. Since 1989, poverty has increased for all groups, and by 1993 35.6% of female-headed families were poor.

When the population of female-headed families is examined as a whole, it is clear that white families make up the largest share (**Table 6.18**). In 1993, white families accounted for 53.7% of the total; black families accounted for 43.1%. (Of course, given their smaller share of the total population, blacks are disproportionately poor.) The bottom panel of Table 6.18 shows the share of the total increase in the number of poor female-headed families by race. While blacks accounted for the largest share of the increase between 1973 and 1979 (57.5%), whites were responsible for the largest share from 1979 to 1989 (57.6%) and from 1989 to 1993 (57.7%).

As for the common belief that the typical female head of family has never been married and has had a number of out-of-wedlock births, **Table 6.19** shows that families headed by divorced women made up the largest share

TABLE 6.17
Poverty Rates for Female-Headed Families, 1973-93

Year	All	White	Black	Hispanic
1973	32.2%	24.6%	52.8%	51.4%
1979	30.4	22.3	49.4	49.2
1989r*	32.6	25.8	46.7	48.0
1992	34.9	28.1	49.8	48.8
1993r*	35.6	29.2	49.9	51.6

* r indicates revision of data using 1990 census weights.

Source: Center for Budget and Policy Priorities (1993).

TABLE 6.18
Poverty in Female-Headed Families, by Race, 1973-93

Year	White	Black	Other	Total	Number (000)
1973	54.3%	44.4%	1.3%	100.0%	2,193
1979	51.0	46.7	2.3	100.0	2,645
1989r*	52.8	43.4	3.8	100.0	3,575
1993r*	53.7	43.1	3.2	100.0	4,424
Share of Total Increase					
1973-79	35.4%	57.5%	7.1%	100.0%	452
1979-89r*	57.6	34.3	8.1	100.0	930
1989-93r*	57.7	41.8	0.5	100.0	849

---

* r indicates revisions using 1990 census weights.

Source: Authors' analysis of Center for Budget and Policy Priorities (1993) and U.S. Bureau of the Census (1994) data.

TABLE 6.19
Distribution of Female Family Heads by Marital Status, 1973-93

Year	Married, Husband Absent	Widowed	Divorced	Never Married	Total	Number (000)
1973	23.9%	37.7%	25.9%	12.6%	100.0%	6,535
1979	21.0	29.8	33.0	16.2	100.0	8,220
1989	17.1	23.9	36.4	22.6	100.0	10,890
1993	17.3	20.2	37.1	25.4	100.0	11,947
Annual Growth Rates						
1973-79	1.7%	-0.1%	7.9%	8.0%	3.8%	
1979-89	0.8	0.6	3.8	6.1	2.8	
1989-93	2.6	-1.8	2.8	5.3	2.3	

Source: Authors' analysis of U.S. Bureau of the Census (1991, 1992) data.

of female-headed families in 1993 (37.1%), followed by never-married females (25.4%). While never-married mothers have consistently been the fastest-growing group, their annual rate of growth has slowed in each period, from 8.0% in 1973-79 to 5.3% in 1989-93.

A great deal of controversy exists regarding the rise of out-of-wedlock births documented in the previous table. Conventional thinking suggests that a precipitous rise in female-headed families led by never-married mothers, particularly among blacks, has become a major poverty problem. This perception has grown out of the fact that the ratio of expected unmarried to total lifetime births (this way of measuring birth trends is explained below) grew significantly, from 23.2% to 64.5%, for blacks between 1960 and 1989 (**Table 6.20**). However, the data show that, while out-of-wedlock births have become more common for both blacks and whites, they have *not* increased dramatically. Rather, the rise in the ratio of unmarried to married births, particularly among blacks, is being driven by a decrease in married births.

Table 6.20 and **Figure 6E** present the relevant data. The table and figure use the concept of expected lifetime births, that is, the number of in- and out-of-wedlock children a woman could expect to have throughout

TABLE 6.20
Expected Lifetime Births,* by Marital Status and Race, 1960-89

	1960	1965	1970	1975	1980	1989
Unmarried Births						
White	0.08	0.11	0.14	0.12	0.18	0.36
Black	1.05	1.08	1.16	1.09	1.25	1.64
Married Births						
White	3.45	2.67	2.25	1.56	1.57	1.53
Black	3.49	2.75	1.93	1.15	1.01	0.90
Total						
White	3.53	2.78	2.39	1.69	1.75	1.89
Black	4.54	3.83	3.10	2.24	2.27	2.54
Unmarried Births as a Percent of Total Births						
White	2.3%	4.0%	5.7%	7.3%	10.2%	19.0%
Black	23.2	28.2	37.6	48.8	55.5	64.5

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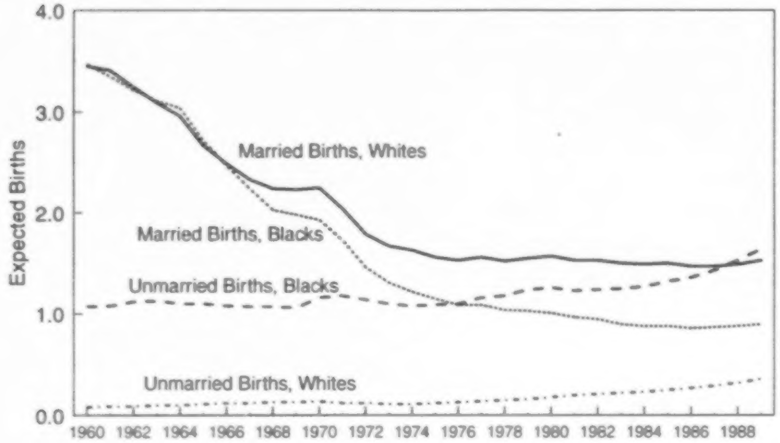
*The numbers in the table refer to the expected number of lifetime births per woman of child-bearing age given age-weighted fertility rates in each year.

Source: Jencks (1991), updated by authors.

FIGURE 6E
Expected Lifetime Births by Marital Status and Race, 1960-89



Source: Jencks (1991), updated by authors.

her life. (Expected lifetime births are simply another name for age-weighted fertility rates in a given year. Thus, this concept assumes that age-specific fertility rates in a given year continue to hold.) For example, based on prevailing fertility rates at the time, married white women in 1960 would have been expected to have an average of 3.45 children over their lifetimes.

The trend lines in Figure 6E show that, while blacks have a higher level of expected unmarried births than whites, both groups show a slight upward trend (although blacks show a steeper rise at the end of the period). While a rise in the number of unmarried births among blacks—1.05 in 1960 to 1.64 in 1989—is not a trivial development, it alone would have been unlikely to generate the controversy surrounding this issue. The significant trend is the steep drop in the expected births to married women of both races. For married white women, the average dropped from 3.45 children in 1960 to 1.53 children in 1989; for married black women it fell from 3.49 in 1960 to 0.90 in 1989. The ensuing rise in the ratio of unmarried births to all births, then, has been driven to a greater degree by these falling rates for married women than by the rising birth rates of unmarried women.

In comparing child-bearing behavior of black and white women, Table

6.20 shows that, in 1960, expected lifetime births were about equal for married women of both races. However, a dramatic decline began in child bearing among married women, with lifetime births to married black women declining faster than among married white women. By 1970, a typical married black woman was expected to have fewer children than her white counterpart, and by 1989 (the latest year of available data) the expected births between the two races diverged significantly. This trend had two effects. It lowered overall expected births (Table 6.20), and it led to an increase in the proportion of black children born to single mothers.

In sum, family structure changes cannot be held accountable for the failure of economic growth to reduce poverty rates in the 1980s and early 1990s. Although a demographic shift to family types more vulnerable to poverty has contributed to high poverty rates over time, most of this shift occurred in earlier periods. As Table 6.16 shows, demographics had a smaller impact in the 1979-92 period than in the 1970s. The poverty of female-headed families, while high relative to overall poverty, has risen only slightly over the 1980s (Table 6.17). Furthermore, Tables 6.19 and 6.20 (and Figure 6E) show that the controversy surrounding out-of-wedlock births is overstated. Never-married mothers still make up a minority of female family heads, and the rise in the ratio of out-of-wedlock births to married births for blacks is being driven by a dramatic fall in the latter rather than a substantial rise in the former.

The Changing Effects of Taxes and Transfers

Chapter 2 made the point that the decreased progressivity of the tax system over the 1980s favored the wealthy and hurt the poor. In tandem with this development, government transfers became less generous over the decade, particularly in the early Reagan years. Since the official poverty statistics are calculated prior to tax payments (or receipts), and exclude the value of in-kind benefits, they shed little light on the effects of policy changes in these areas. Therefore, in this section we use a more inclusive measure that incorporates five separate income definitions.

Table 6.21 examines the effect of taxes and benefits on poverty rates for all persons and for family types with children for the years 1979, 1989, and 1991. Column 1 shows the poverty rates generated by the market; these rates represent the degree of poverty that would exist in the absence of any government intervention. Moving left to right, the table introduces different transfers and taxes and shows how the poverty rate is affected by each. In

TABLE 6.21
Poverty Rates* Using Different Income Definitions, 1979-91

Family Relationship	Market Income Before Transfers (1)	Plus Social Insurance (Including Social Security) (2)	Plus Means-Tested Cash Transfers (3)	Plus Food and Housing Benefits (4)	Less Federal Taxes (5)	Poverty Rate Reduction Due to Government Taxes and Benefits (6=1-5)	Reduction Effectiveness Rate (7=6/1)
All Persons							
1979	19.2%	12.8%	11.6%	9.7%	10.0%	9.2	48%
1989	19.9	13.8	12.8	11.2	11.8	8.1	40
1991	21.8	15.2	14.2	12.4	12.6	9.2	42
Point Change							
1979-89	0.7	1.0	1.2	1.5	1.8	-1.1	
1989-91	1.9	1.4	1.4	1.2	0.8	1.1	
Persons in Single-Parent Family With Related Children Under 18							
1979	50.1%	45.2%	40.3%	30.2%	30.3%	19.8	40%
1989	48.1	44.6	42.3	36.4	36.4	11.7	24
1991	51.6	48.2	45.9	39.2	38.6	13.0	25
Point Change							
1979-89	-2.0	-0.6	2.0	6.2	6.1	-8.1	
1989-91	3.5	3.6	3.6	2.8	2.2	1.3	
Persons in Married-Couple Family With Related Children Under 18							
1979	9.4%	7.7%	7.7%	5.9%	6.2%	3.2	34%
1989	10.5	9.1	8.5	7.4	8.0	2.5	24
1991	11.7	10.0	9.3	8.1	8.3	3.4	29
Point Change							
1979-89	1.1	1.4	0.8	1.5	1.8	-0.7	
1989-91	1.2	0.9	0.8	0.7	0.3	0.9	

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*Rates are based on adding benefits to income cumulatively, from left to right.

Source: Authors' analysis of Green Book (1993).

the first row, for example, the poverty rate for all persons fell from 19.2% to 12.8% in 1979 due to the receipt of social insurance benefits. The second to last column shows the extent to which government tax and transfer policies mitigated the poverty rates generated by market outcomes (here, negative signs mean less-effective poverty reduction). The final column, "reduction effectiveness rate," is the previous column divided by column 1: it represents the share of market poverty reduced by redistribution.

Note first that market outcomes were steadily worse for all persons in each year, meaning the tax and transfer system would have had to "work harder" to keep poverty from rising. In fact, as seen in column 5, poverty rates after taxes and transfers were higher in each year in the table. Thus, despite the fact that redistribution lowered market-induced poverty rates by the same level in 1979 as in 1991 (9.2 points), poverty rates for all persons were higher at the end of the period due to the failure of taxes and transfers to compensate for lower market incomes.

In fact, the reduced effectiveness of taxes and transfers led to an increase in poverty over the 1980s. While poverty rates were reduced by 9.2 percentage points in 1979, the comparable figure for 1989 was 8.1. Thus, in the 1980s taxes and transfers were 1.1 point less effective in decreasing the poverty rate. Although the same level of poverty reduction can be attributed to taxes and transfers in both 1979 and 1991 (9.2 points), it represented 48% of market poverty for all persons in 1979 but only 42% in 1991.

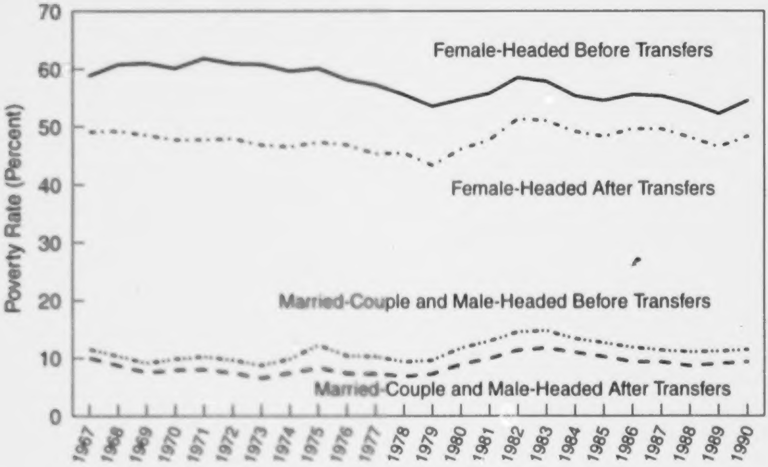
Taxes and transfers were significantly less effective at reducing the poverty of persons in single-parent families with children in the 1979-89 period. Market outcomes actually reduced their poverty by 2.0 percentage points, but the fall in benefits led to a post-tax and post-transfer poverty rate in 1989 that was 6.1 points higher than that of 1979. This same group was most hurt by market outcomes over the recession; its pre-tax, pre-transfer poverty rates grew by 3.5 percentage points in the 1989-91 period. However, during the downturn, persons in these families were helped most by taxes and transfers (particularly transfers), which reduced their poverty rates by 1.3 points more than in 1989. Yet over the full period (1979-91), the reduced effectiveness of taxes and transfers led to a 6.8-point drop in poverty-rate reduction. Further evidence of reduced effectiveness is seen by the steep fall of the rate in column 7, from 40% in 1979 to 25% in 1991.

Persons in married-couple families have also experienced increasing poverty rates since 1979. Over the 1980s, each category of tax and transfer still left these families with higher poverty rates in 1989 than they experienced in 1979, and by the end of the period poverty-rate reduction had fallen by 0.7 points. Again, this pattern reversed during the recession, and poverty-rate reduction among persons in these families increased by 0.9 points.

Figure 6F portrays the effect of transfers (taxes are ignored) on the poverty of nonelderly persons in families with children from 1967 to 1990 by comparing pre- and post-transfer poverty rates. The high poverty rates

FIGURE 6F

Poverty Before and After Transfers: Families With Children, 1967-90



Source: Danziger and Weinberg (1992).

of female-headed families relative to married-couple and male-headed families are evident in the figure. A subtler point is made by noting the distance between pre- and post-transfer poverty rates for both types of families. The two lines for male-headed and married-couple families maintain a fairly consistent gap over time, suggesting that the effectiveness of transfers has not varied a great deal for these family types. However, the gap between the two lines for female-headed families begins to visibly narrow in the 1980s, echoing the above findings that taxes and transfers have become less poverty-reducing for this group in recent periods.

Government Benefits and Family Structure: Is There a Welfare Trap?

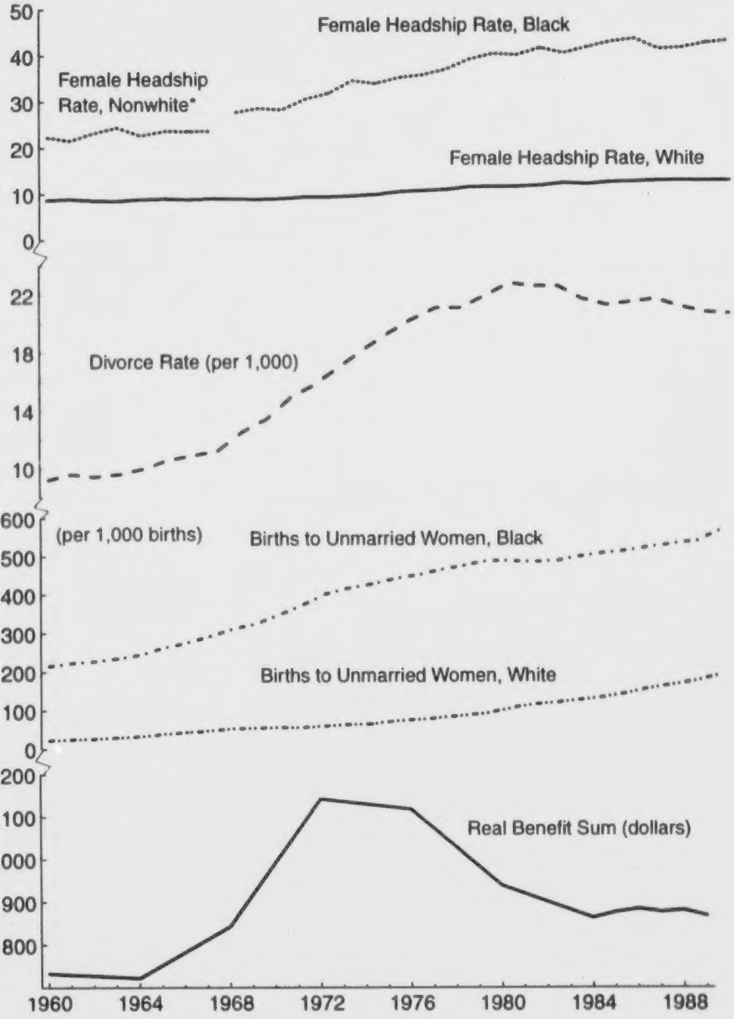
The previous sections examined the roles of family structure and benefit changes on poverty rates. This section looks at the interaction between these two issues and examines a question that has often been raised in the debate over government provisions to the poor: to what extent have welfare programs caused poverty by creating incentives that heighten the probability that a family will be poor?

Welfare programs have been attacked as the primary cause of the increased proportion of female-headed families. The argument regarding family structure has been developed as follows. Since the most valuable benefit package is available to single-headed families with children, there is an incentive to form such families, either by delaying or avoiding marriage, dissolving existing unions, or having children out of wedlock. In fact, the evidence shows that the proportion of families with children headed by females has grown over time, as has the benefit sum, at least up to the mid-1970s. (The benefit sum includes the value of Aid to Families With Dependent Children [AFDC], food stamps, and Medicaid; see the bottom line of **Figure 6G**). Critics of the system of social provision have suggested that there is a causal relationship between these two phenomena: family structure has been altered by the provision of benefits to female-headed families with children. Yet, as Figure 6G demonstrates, this correlation between benefits and family structure holds up only to the early 1970s.

Beginning around 1972 the benefit sum began to fall, due primarily to the declining real value of AFDC benefits. Yet none of the demographic indicators, which have generally risen consistently over time, follow the plunging benefit sum. If growing benefits led to increased formation of single-headed families, then falling benefits should have led to a decrease in the formation of these family types. Yet the only series in the figure that reverses direction is the divorce rate, the one rate that is least relevant to the low-income population. While white female headship and nonwhite out-of-wedlock birth rates appear to decelerate slightly by the end of the period covered, the white out-of-wedlock birth rate does not appear to attenuate at all. The apparent independence of these demographic indicators and the benefit sum challenges the overly simplistic story that welfare causes the rising proportion of female-headed families.

Further evidence against the "welfare is the problem" argument comes from an analysis of AFDC participation rates, that is, the proportion of the demographically eligible population (primarily female-headed families with children) participating in the program. If single-mother families were forming specifically to take advantage of the eligibility for welfare, we would expect to see a greater proportion of female-headed families participating in AFDC over time (i.e., rising participation rates). In fact, as **Table 6.22** and **Figure 6H** show, participation rates peaked in the mid-1970s and fell until

FIGURE 6G
Demographic and Benefit Sum Trends, 1960-89



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*Data available for nonwhites only to 1967.

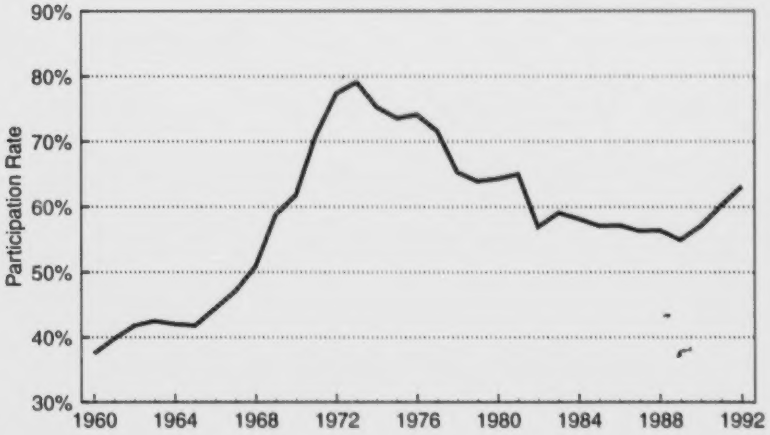
Source: Moffitt (1992).

TABLE 6.22
AFDC Participation Rates of Female-Headed Families With Children, 1967-92

	Mother-Only Families With Children (000)		
Year	All	AFDC Cases	Participation Rate
1967	2,584	1,217	41.7%
1973	3,798	3,003	79.1
1979	5,288	3,380	63.9
1983	5,718	3.379	59.1
1989	6,519	3,578	54.9
1992	7,043	4,447	63.1
Annual Change Rates			Point Change
1967-79	6.0%	8.5%	16.8
1979-89	2.1	0.6	-9.0

Sources: Green Book (1993); Annual Statistical Supplement to the Social Security Bulletin (1992); and Bureau of the Census (unpublished).

FIGURE 6H
AFDC Participation Rates, 1960-92



Sources: Green Book (1993); Annual Statistical Supplement to the Social Security Bulletin (1992); U.S. Bureau of the Census (unpublished).

1989. Between 1967 and 1979, female-headed families with children grew at an annual rate of 6.0%, while AFDC caseloads grew faster, at 8.5% per year, leading to a 16.8-point rise in participation rates over this period. But this growth pattern reversed during the 1980s, when the number of female-headed families grew at a rate more than three times that of AFDC participants (2.1% versus 0.6%) and participation rates fell by 9 points. Since 1989, participation rates have grown in response to the recession of 1990-91 and the weak recovery that ensued.

How are generally lower participation rates to be explained in the context of the growing proportion of female-headed families with children? The trends strongly suggest that female-headed families are forming for reasons other than to ensure AFDC eligibility. The decision to form a family of a particular structure is most likely to be based on a wide variety of factors, reflecting not only economic conditions but also social influences, such as society's changing mores regarding single-parent families and divorce.

The question of family structure and welfare has been extensively examined by economists who, in modeling the family-formation process, have estimated the impact of a wide variety of variables, including welfare benefits, thought to play a role in family-structure decisions. A detailed discussion of this econometric work is beyond the scope of this text. However, the findings of this literature can be summarized as follows:

- the effect of the value of the benefit package has a small effect on family structure;

- this small effect is most apparent in lower rates of remarriage and decisions by female-headed families to live independently (i.e., to form their own households instead of living with a relative);

- over the period covered in Figure 6G, the increase in the benefit sum led to a 9% to 14% increase in the prevalence of female-headed families with children.

Having examined the effect of the changes in taxes and transfers over the 1980s and the impact of benefits on family structure, we now turn to an explanation of the high poverty rates over the decade.

Explaining the High Poverty Rates of the 1980s

Over the 1980s the tax system grew less progressive (see also Chapter 2) and government benefits grew less effective at reducing poverty (Table 6.21). However, when these findings are considered in the context of the relatively long economic expansion of 1983-89, another question is suggested: why were the poor unable to "cash in" on the economic growth that prevailed throughout most of the decade? That is, given the expansion, why didn't those at the bottom of the income distribution (at least those with some connection to the labor market) respond to less generous transfers and more regressive taxes by turning to the labor market? In the following section, we argue that such a reaction did in fact occur, but the wages of low-income workers declined significantly (see Chapter 3), keeping poverty rates high throughout the decade.

Falling Wages and Poverty in the 1980s

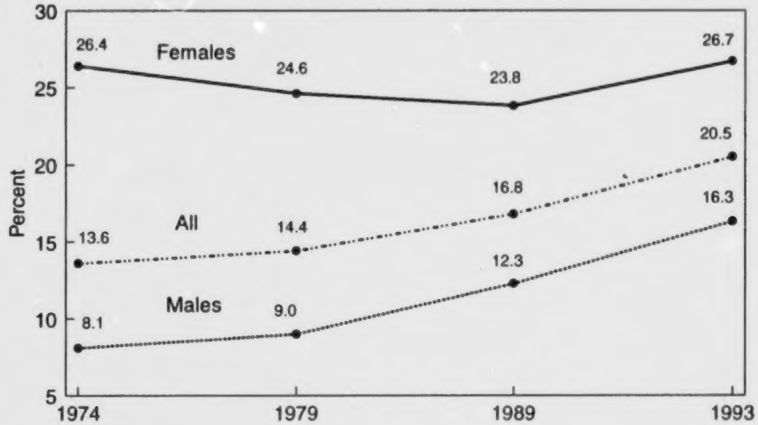
The problem of declining wages has already been discussed in Chapter 3. The relevant part of that presentation in the context of this chapter is the expansion of low-wage employment and the declining wages of low-wage workers. The following tables specifically examine earnings trends as they affect the poor.

We begin with an analysis of prime-age workers with year-round, full-time attachment to the labor force yet with low earnings. These are persons who spent at least 50 weeks of the year at work or looking for work (i.e., in the labor force), and who worked full time or were part time involuntarily. However, their annual earnings were not high enough to reach the poverty line for a family of four, which in 1993 was $13,483 (using CPI-U-X1).

Figure 6I charts the share of these workers, by gender, for the period 1974-93. Clearly, the trend shows an increased proportion earning poverty-level wages. This is particularly the case for men, whose share has grown by 8.2 percentage points since 1974. Although the proportion of male low-wage workers grew over the full period, the figure shows that the steepest growth was post-1979, when poverty was least responsive to overall economic growth. Interestingly, women saw their share fall between 1974 (the earliest year that these type of data are available) and 1989, but it has climbed since; by 1993 over one-quarter of prime-age female workers (8.5 million) earned poverty-level wages.

Figure 6J focuses on low-earners (again, with full labor-force attachment) in families with children; female-headed families are shown separately. Note

FIGURE 6I
Prime-Age Workers With Low Earnings and Full-Time/Year-Round Attachment, 1974-93*



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* Data for 1993 weighted according to 1990 census.

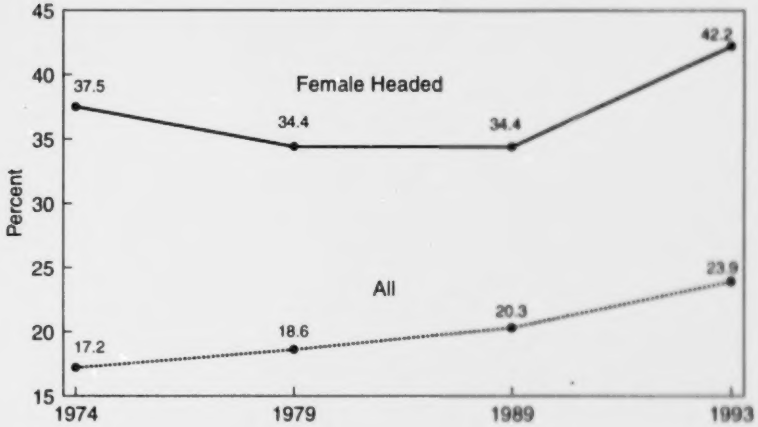
Source: U.S. Bureau of the Census (unpublished).

that this group of workers is worse off than those shown in the previous figure (compare the levels in the lines marked "All"; of course, some persons are represented in both graphs), suggesting that families with children have a lower standard of living than the population of all prime-age workers. Families with children that are headed by a female have particularly high levels; in 1993, over two-fifths of fully attached workers in these families earned poverty-level wages. Here, too, the pre-1979 trend was toward higher earnings.

Since the above figures focus only on those "fully attached" to the labor force, they show the combined effects of falling wages and fewer hours worked, or underemployment. **Table 6.23** examines the structure of hourly wages; it asks the question, given the structure of wage rates at a point in time, what percentage of workers fail to earn an hourly wage that would lift a family of four out of poverty, given full-time, full-year work?

The data in Table 6.23 show that rising wage rates in the 1973-79 period were poverty-reducing, since the share of workers earning poverty-level wages fell in each category. Interestingly, these positive shifts took place exclusively for the lowest earners, or those earning up to 75% of poverty. How-

FIGURE 6J
Workers in Families With Children, With Low Earnings and Full-Time/Year-Round Attachment, 1974-93*



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* Data for 1993 weighted according to 1990 census.

Source: U.S. Bureau of the Census (unpublished).

ever, between 1979 and 1993, this trend reversed, and the share of very low earners grew sharply. For example, the share of black men earning very low wages (less than 75% of the poverty line) grew by 12.2 percentage points in the 1979-93 period; for Hispanic men, the increase was 16.7 points. These changes led to a dramatic rise in the share of males earning poverty-level wages. The proportion of females who were very low earners also grew between 1979 and 1993, but the share earning between 75% and 100% fell, and by the end of the period a smaller share of women earned poverty-level wages.

While Table 6.23 shows the proportion of low-wage workers, **Table 6.24** examines percentage changes in hourly wage levels of the poorest male and female workers (those in the bottom four-tenths of the hourly earnings distribution). For low-wage men between 1973 and 1979, there were small negative changes in the bottom three-tenths and a slight gain in the fourth tenth. For low-wage women, 1973-79 was a period of strong growth in the lowest tenth. The pattern of gains or small losses reversed, however, between 1979 and 1993 as all groups, except women at the fourth tenth, experienced falling wages. Men in particular experienced steep wage losses; those in the

TABLE 6.23
Shares of Workers Earning Enough to Maintain a Family of Four at 75% of Poverty Line and Up to the Poverty Line, by Gender and Race, 1973-93

Share of Workers Earning:	Male 1973	Male 1979	Male 1993	Female 1973	Female 1979	Female 1993
White						
Below 75% Poverty	2.8%	1.9%	8.3%	10.6%	6.1%	15.2%
To Below 100%	8.3	9.1	9.3	26.9	28.3	15.6
Total: Less Than Poverty	11.1	11.0	17.6	37.5	34.4	30.8
Black						
Below 75% Poverty	6.4%	4.1%	16.3%	18.7%	8.0%	20.4%
To Below 100%	17.6	18.5	16.9	31.0	33.1	19.0
Total: Less Than Poverty	24.0	22.6	33.2	49.7	41.1	39.4
Hispanic						
Below 75% Poverty	7.6%	3.4%	20.1%	14.3%	7.9%	27.3%
To Below 100%	18.1	19.1	18.8	35.9	39.8	20.4
Total: Less Than Poverty	25.7	22.6	39.0	50.2	47.7	47.7

Source: Authors' analysis.

TABLE 6.24
Wage Trends Relevant to the Poor and Near-Poor, 1973-93

Percent Change by Tenths	Male Workers 1973-79	Male Workers 1979-93	Female Workers 1973-79	Female Workers 1979-93
Lowest Tenth	-1.6%	-20.7%	12.6%	-14.1%
2nd Tenth	-1.9	-19.1	2.9	-7.6
3rd Tenth	-0.5	-18.0	0.9	-1.7
4th Tenth	0.3	-14.7	0.3	1.6

Source: Authors' analysis.

bottom three deciles saw a decrease of between 18.0% and 20.7% in their hourly wage. Overall, wage loss was greatest for the lowest earners, further evidence of a shifting down of the earnings distribution.

The next few tables extend this analysis by examining the work effort of poor and low-wage workers. As Figures 6I and 6J have shown, full-time attachment to the labor force does not prevent low earnings. The following tables demonstrate that low-wage workers have generally increased their work effort over the 1980s yet remain economically disadvantaged.

Table 6.25 examines the work experience of the prime-age (25-54) poor in 1979, 1989, 1992, and 1993. The absolute number of poor workers has grown over time, but the proportions have remained markedly constant. Since 1979, about two-thirds of the employable poor (those not ill or disabled, going to school, or unable to find work) worked in each year. Over the same period, among those who worked, about half have worked full-time. One rate that

TABLE 6.25
Work Experience of the Prime-Age Poor, 1979-93

	1979	1989	1992	1993r*	1979-89	1989-92
Number of Poor, Age 25-54 (000)	6,625	9,691	11,728	12,741	3,066	2,037
*Percent Not Employable***	21.3%	22.8%	26.7%	28.2%	1.5	4.0
Ill or Disabled	12.6	11.6	12.8	15.7	-1.0	1.1
Going to School or Other	5.1	6.3	6.2	6.3	1.2	-0.1
Unable to Find Work	3.5	4.9	7.8	6.1	1.3	2.9
Percent Employable	78.7	77.2	73.3	71.8	-1.5	-4.0
Worked	67.2	68.6	68.7	69.6	1.4	0.0
Did Not Work	32.8	31.4	31.3	30.4	-1.4	0.0
Total	100.0	100.0	100.0	100.0		
Percent of Employable Poor Workers Who Worked						
Full Time, Year-Round***	18.2%	19.0%	19.2%	20.4%	0.8	0.2
Not Full Time, Year-Round	49.1	49.6	49.5	49.2	0.6	-0.2

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* r indicates revision using 1990 census weights.

** "Employable" poor are those who are neither retired, ill, disabled, nor in school. Those who are keeping house are in the employable group.

***At least 50 weeks.

Source: Authors' analysis of U.S. Bureau of the Census (1993, 1994) data.

does grow over the period is the percent of the prime-age poor unable to find work, which grew by 4.2 points between 1979 and 1992. (Because of data changes, we avoid trend comparisons involving 1993 data.) In tandem with previous results, this finding suggests that low-wage workers are faced with both falling wages and diminishing employment opportunities.

In **Table 6.26**, the percentage of poor families with children with the equivalent of at least a full-time worker is shown for 1975, 1979, and 1989. For example, when members of poor families with children pooled their working hours in 1975, 26.3% of those families had the equivalent of at least one full-time worker. (Full-time labor supply is defined as between 1,750 and 2,080 hours of work per year.) Once again, work effort is seen to have increased between 1979 and 1989 in each category.

Poor married couples with children have the highest percentage of full-time worker equivalents in both years, a finding to be expected since they typically have the most potential workers per family. Since 1975, about one-half of these families have had at least one full-time worker equivalent, and this share increased to 55.2% by 1989. Conversely, female-headed families with children have fewer potential workers (in addition to child care constraints), and they have the smallest percentage of full-time worker equivalents in both years. However, the table shows that the amount of work performed by members of these poor families *increased* by 2.7 percentage points in the 1979-89 period.

TABLE 6.26
Percentage of Poor Families With Children With at Least One Full-Time "Worker Equivalent,"* 1975-89

Year	All	Married	Female-Headed Household
1975	26.3%	47.1%	9.2%
1979	26.4	52.4	10.0
1989	28.1	55.2	12.7
Point Change			
1979-89	1.7	2.8	2.7

* A "full-time worker equivalent" is defined as family labor supply of between 1,750 and 2,080 hours worked during the year.

Source: Green Book (1993).

Table 6.27 looks at average annual hours of work among low-income families within different family types: female-headed families with children, married couples, and unrelated individuals. Whereas the previous table included only the poor, Table 6.27 examines work effort by those in the bottom two-fifths of the income distribution, which includes both the poor and near-poor.

As with the previous table, the average hours of work in Table 6.27 rep-

TABLE 6.27
Hours Worked by Family Type in the Bottom Two-Fifths,* 1979-89

	Annual Hours Worked	
	Lowest Fifth	Second Fifth
All Families		
1979	820	1,800
1989	850	1,840
Percent Change 1979-89	3.7%	2.2%
Female-Headed Families with Children		
1979	280	570
1989	260	560
Percent Change 1979-89	-7.1%	-1.8%
Married Couples With Children		
1979	2,240	2,950
1989	2,350	3,250
Percent Change 1979-89	4.9%	10.2%
Unrelated Individuals (Nonelderly)		
1979	590	1,350
1989	640	1,540
Percent Change 1979-89	8.5%	14.1%

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* Fifths are defined separately for each family type.

Source: Green Book (1993).

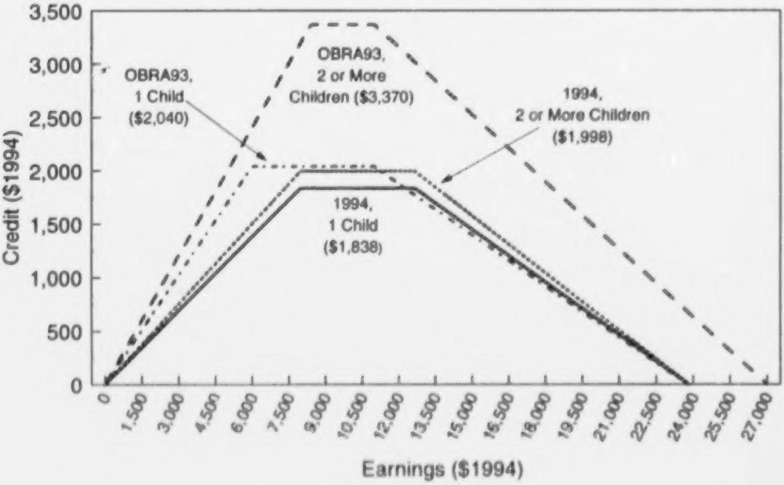
resent the pooled work effort of the family. The table shows that, with the exception of female-headed families with children, average annual hours of work grew for all family types between 1979 and 1989. However, even in light of extra work effort, the wage decline documented above constrained these families from realizing any economic gains. With the exception of female family heads, they were running faster yet losing ground.

The largest growth in percentage terms was for unrelated individuals. Those at the bottom of the income distribution increased their average hours of work by 8.5% over the decade; those individuals in the second quintile increased their average hours by 14.1%. Married couples with children had by far the most hours of work; in each year these families supplied an average of well over 2,000 hours of labor. By 1989, the average married-couple family with children in the second quintile worked 3,250 hours, 10.2% more hours than in 1979. Mother-only families with children consistently show a relatively small number of hours of work, and their supply fell over the time period. However, their annual change in hours was quite small (20 hours in the bottom fifth, 10 hours in the second fifth), and their wages can be assumed to be low. Therefore, the magnitude of their annual income loss due to reduced hours was negligible.

An important policy change that should mitigate to some degree the impact of the negative wage trends on poverty is the expansion of the Earned Income Tax Credit under Clinton's budget package, OBRA93. The EITC is a wage subsidy for families with children (the expanded program now contains a smaller subsidy for childless low-wage workers), targeted at low-earners. (The poverty-reducing effects of the current EITC are incorporated in Table 6.21, column 5.) **Figure 6K** shows the level of the refundable credit as a function of earnings, both before and after the OBRA93 expansion for families with one and two children. (The results are for the fully phased-in EITC, which occurs in 1996.)

The figure reveals that OBRA93, by 1996, significantly expands the credit. For working families with one child, the maximum credit increases by $202 (1994 dollars); for those with two or more children, it increases by $1,372. The steeper slopes of the OBRA93 EITC schedule show that the credit increases at a faster rate under the expanded program as earnings rise. For example, a full-time/full-year male worker at the 20th percentile of the male wage distribution with two children would receive a $972 increase in the EITC under OBRA93. Thus, some of the poverty-inducing effects of wage decline will likely be offset when OBRA93 is fully phased in.

FIGURE 6K
Earned Income Tax Credit, 1994,
and Fully Phased-in Expansion (OBRA93)



Source: Scholz (1993-94).

Conclusion: What Does the Evidence Show?

This chapter began with the observation that, based on the movement of the economic variables usually correlated with poverty rates, poverty should have fallen after 1983. Yet a wide array of evidence shows that this expectation did not materialize. Poverty rates stayed high throughout the decade, whether measured by the official thresholds (which show poverty to have risen each year so far in the 1990s despite the recovery that began in mid-1991) or by alternative, more encompassing measures. Furthermore, demographic explanations (the increase in the number of family types unresponsive to economic growth), while possibly relevant in earlier decades, are insufficient to explain the stubbornly high rates. Neither is lack of work effort a sufficient explanation; the work effort of the poor and near-poor generally increased over the 1980s.

The conclusion we are left with is that two simultaneous effects occurred that kept poverty rates high over the decade: (1) the wages of those at the bottom of the income distribution fell precipitously, and (2) the system of tax and transfers designed to mitigate such a failure of the market was less effective than in the past. In other words, the primary distribution of market income was such that more families (as well as unrelated individuals) were unable to achieve incomes above the poverty level through the wages they earned during the 1980s and early 1990s. This development necessarily puts additional pressure on the secondary distribution—taxes and transfers—to close a wider poverty gap (see Table 6.5). Yet, while the expanded EITC should partly counteract the trend in market income in the future, taxes and transfers, as shown in Table 6.21, have become less effective at making up the difference.

Chapter 7

Health Care: Expenditures Exceed Results

By Edith Rasell

National health expenditures in the United States are higher and increasing faster than in any other major industrialized country. Yet despite such high levels of spending, 38.9 million people (15.4% of the population) were uninsured at any one point during 1992; cumulatively, 58 million people (23% of the population) were uninsured at some time in 1992. In addition, health outcomes such as life expectancy and infant mortality are worse in the United States than in most industrialized countries, and they vary greatly by race, income, and education. The high level of expenditure is driven by the high availability of tests and procedures, high prices (including high incomes for doctors), high medical-specific inflation above the level of inflation in the general economy and high administrative costs.

Expenditures

U.S. expenditures for health care are the highest in the world. In 1991, the $752 billion Americans spent on health care was 13.2% of GDP, 1.7 times the OECD average of 7.9% (**Table 7.1**). Canada had the second highest level of spending, at 10.0% of GDP. Although expenditures in the United States have been substantially higher than in all other industrialized countries since at least 1980, the rate of growth in spending has also been the highest of any nation. Between 1985 and 1991 in the United States, health expenditures as a share of GDP increased by 2.7 percentage points; in this same period, the average increase for the OECD nations was 0.8 percentage points.

Health expenditures in the United States are absorbing an ever-growing share of GDP (**Figure 7A**). In 1960, just 5.3% of GDP was spent on health care. By 1970, after the introduction of Medicare and Medicaid in 1965, that figure had grown to 7.4%. The health expenditure share climbed a total of

TABLE 7.1
Total Health Expenditures, Selected Countries

	Percentage of GDP			Change in Share of GDP, 1985-91
Country	1980	1985	1991	(Percentage Points)
Australia	6.5%	7.7%	8.6%	0.9
Austria	7.9	8.1	8.4	0.3
Belgium	6.6	7.4	7.9	0.5
Canada	7.4	8.5	10.0	1.5
Denmark	6.8	6.3	6.5	0.2
Finland	6.5	7.2	8.9	1.7
France	7.6	8.5	9.1	0.6
Germany	7.9	8.7	8.5	-0.2
Greece	4.3	4.9	5.2	0.3
Iceland	6.4	7.1	8.4	1.3
Ireland	8.5	8.2	7.3	1.1
Italy	6.8	7.0	8.3	1.3
Japan	6.4	6.5	6.8	0.3
Luxembourg	6.8	6.8	7.2	0.4
Netherlands	8.2	8.0	8.3	0.3
New Zealand	7.2	6.5	7.6	1.1
Norway	6.6	6.4	7.6	1.2
Portugal	5.9	7.0	6.8	-0.2
Spain	5.9	5.7	6.7	1.0
Sweden	9.5	8.8	8.6	-0.2
Switzerland	7.3	7.6	7.9	0.3
Turkey	n.a.	2.8	4.0	1.2
United Kingdom	5.8	6.0	6.6	0.6
United States	**9.2**	**10.5**	**13.2**	**2.7**
OECD Average	7.0	7.2	7.9	0.8

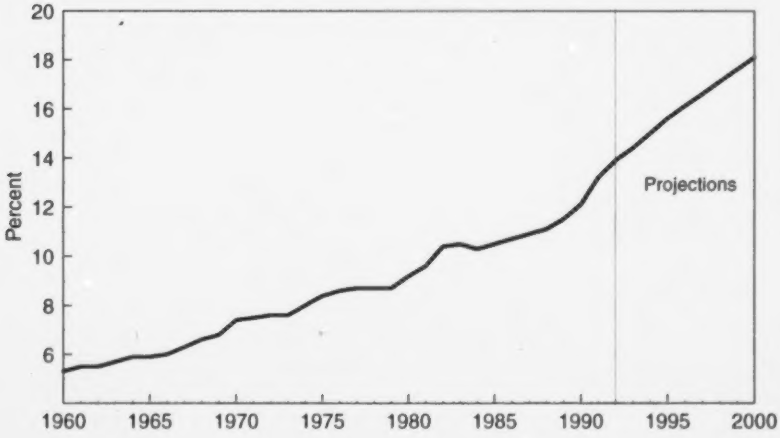
Sources: Schieber, Poullier, and Greenwald (1993); and author's calculations.

For detailed information on table sources, see Table Notes, page 385.

1.8 percentage points over the 1970s and then accelerated in the 1980s: between 1980 and 1985, spending rose by 1.3 percentage points; from 1985 to 1990, it rose by 1.6 percentage points. In 1990 alone, expenditures rose by 1.1% of GDP. Estimates suggest a slowdown in growth in 1992 and 1993 to about 0.7-0.8 percentage points per year. Such rates are still high by historical standards and in comparison with other countries.

Of course, high levels of health care spending are not necessarily undesirable if this is how people choose to spend their money and they feel they are getting full value. But such spending does mean that less money is avail-

FIGURE 7A
National Health Expenditures as a Share of GDP, 1960-2000

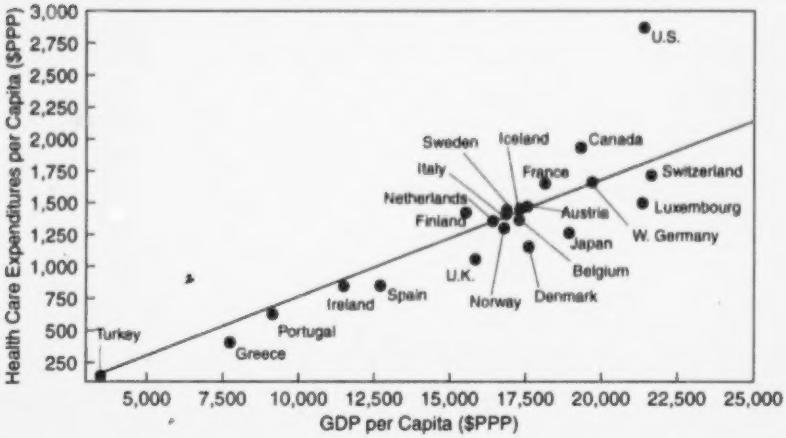


Sources: Donham et al. (1992); Letsch et al. (1992); and Burner et al. (1992).

able for other uses. In 1989, total health costs in the United States were 11.3% of GDP, and federal expenditures for health were $175 billion. Had health costs as a share of GDP risen since then at the OECD average annual rate of 1.6%, by 1992 total U.S. expenditures would have been 11.9% of GDP or $719 billion, $121 billion less than their actual level of $840 billion. If federal health expenditures had also increased at this hypothetical rate plus the rate of increase in enrollment in Medicare and Medicaid, then federal spending would have been $220 billion in 1992, $39 billion less than the actual amount.

As has been demonstrated in many countries, economic growth and rising prosperity generally result in a larger share of income being spent on health care. This trend partially explains the rising share of GDP spent on health care in the United States. However, as shown in **Figure 7B**, health expenditures in the United States are far greater than can be explained by a high standard of living alone. The trend line shows the expected level of health expenditures for various levels of per capita income. Compared to other industrialized countries, health expenditures in the United States are much higher than would be expected given the level of per capita GDP.

FIGURE 7B
Health Care Expenditures per Capita*
Compared to GDP per Capita,* 1991



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* Converted using purchasing-power parities for GDP.

Source: Author's analysis of OECD (1993c) data.

High health expenditures mean large health cost burdens on American families and individuals. While federal, state, and local governments, businesses, and insurance companies are intermediary payers, ultimately individuals and families pay all health care costs through some combination of out-of-pocket spending, premiums, and taxes. Even insurance premiums paid by employers are, for the most part, offset by reductions in wages and salaries. Thus, while high health care costs cause problems for business and government, their greatest impact is on household budgets. As shown in **Table 7.2**, average family expenditures for health care (in 1992 dollars) have risen from $3,503 in 1977, to $5,397 in 1987, and to $6,877 in 1992. This rapid rise in health costs was not matched by growth in family incomes. Thus, between 1987 and 1992, the share of family income spent on health care rose from 15.1% to 18.2%.

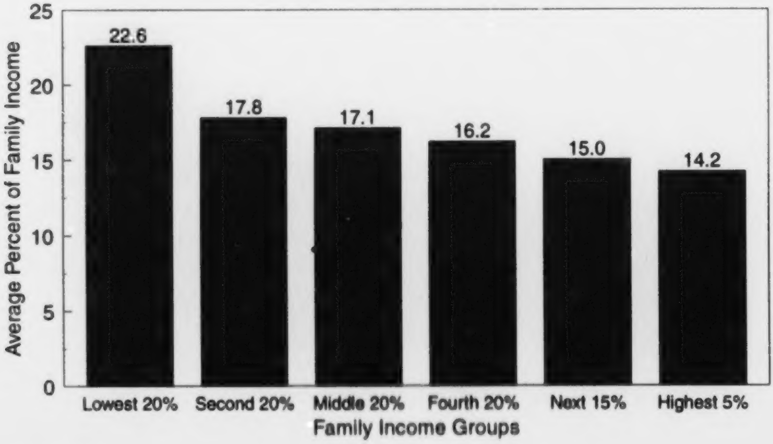
The health cost burden is greatest for families with the lowest incomes. The 20% of people in families with the lowest incomes spent, on average, 22.6% of income on health care in 1992 (**Figure 7C**). This spending includes out-of-pocket payments (deductibles, copayments, coinsurance, and payments for services not covered by health insurance), insurance premiums, and tax payments that are used to purchase health care (for example, to pay for the Medicare and Medicaid programs). Health care spending as a share

TABLE 7.2
Average Family Expenditures for Health Care, 1977, 1987, and 1992

	Average Expenditure (1992 $)	Average Share of Income
1977	$3,503	n.a.
1987	5,397	15.1%
1992	6,877	18.2

Sources: Cantor (1990); Rasell and Tang (1994); and Rasell, Bernstein, and Tang (1993).

FIGURE 7C
Average Family Expenditures for Health Care as a Share of Family Income,* by Quintile, 1992



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* Family income includes money income plus employer payments for health insurance, the employer share of the payroll tax, and corporate income taxes.

Source: Rasell and Tang (1994).

of income declined as income rose. The 5% of people in families with the highest incomes paid just 14.2% of income for health care.

These high levels of expenditures mean that some families have difficulty paying for health care. As shown in **Table 7.3**, in 1991-92 19.4% of people reported that they had problems paying their medical bills. Of these, 24.7% had no health insurance; looked at another way, 43.2% of all people without insurance had problems paying medical bills. However, the majority (56.3%) of people who reported difficulty paying medical bills had private insurance; 15.7% of all people with private insurance had trouble paying their medical bills.

The demographic characteristics of people who reported difficulties paying their health care bills are shown in **Table 7.4**. Within many demographic groups, the share of people reporting difficulties paying their medical bills in large part mirrors the share of that group in the total population. There are exceptions, however: the share of people with incomes below $20,000 who had problems paying their medical bills is nearly double that group's share of the total population. Other demographic groups that are greatly overrepresented among those who have difficulty paying their medical bills are blacks (65% more likely than their share of the population would suggest) and the unemployed (46% more likely). Thus, while members of every demographic group may have difficulty with medical bills, those with low incomes, who are black, or who are unemployed are particularly vulnerable.

TABLE 7.3
Insurance Status of People Who Did and Did Not Have Problems Paying Medical Bills, 1991-92

		By Type of Health Insurance				
	Percent	No Insurance	Employer/ Self-Paid	Medicare	Medicaid	Total
Report Problems	19.4%	24.7%	56.3%	8.5%	10.4%	100.0%
No Problems	80.6	7.8	72.5	13.3	6.3	100.0
Share of Population	100.0	11.1	69.4	12.4	7.1	100.0
Percent Reporting Problems of Those With Insurance Type		43.2%	15.7%	13.3%	28.7%	

Sources: Blendon et al. (1994); and author's calculations.

TABLE 7.4
Characteristics of People
Who Had Problems Paying Medical Bills, 1991-92

Characteristics	Reported Problems Paying Medical Bills	Total Population
Age		
18-34	39.7%	37.0%
35-64	48.4	46.6
65 and Above	11.9	16.4
Sex		
Male	41.7%	47.8%
Female	58.3	52.2
Household Income		
Less Than $20,000	48.4%	24.9%
$20,000 and Above	48.2	71.5
Children Under 18 in Household		
Yes	51.2%	42.7%
No	47.4	56.5
Race		
White, Non-Hispanic	70.6%	78.8%
Black, Non-Hispanic	17.2	10.4
Hispanic	10.2	7.7
Other	1.9	3.1
Employment		
Employed Full- or Part-time	58.6%	60.8%
Unemployed, Looking for Work	6.0	4.1
Other (Retired, Student, Homemaker, etc.)	35.4	35.1

Source: Blendon et al. (1994).

Despite High National Expenditures, Access to Health Care Is Inadequate for Many People

In 1992, 38.9 million people were uninsured **(Table 7.5)**. Since most of the elderly age 65 and above are covered by the federal Medicare program, it is the nonelderly below age 65 who face the most insecurity in their health insurance coverage. In 1992, 17.4% of the below-age 65 population, or 38.5 million people (including 9.8 million children), were without health insurance. Just under two-thirds, 62.5%, had employer-sponsored insurance either through their own or a family member's job. Between 1989 and 1992, the number of people without any insurance rose by over 4 million. Had Medicaid

TABLE 7.5
Sources of Health Insurance Coverage, 1989-92
(In Millions)

Source of Coverage	Total Population				Nonelderly Including Children				Elderly				Children			
	1989	1990	1991	1992	1989	1990	1991	1992	1989	1990	1991	1992	1989	1990	1991	1992
Total Population	243.3	246.0	248.7	251.7	213.7	215.9	218.1	220.8	29.6	30.1	30.6	30.9	63.2	64.2	65.1	66.1
Total With Private Health Insurance	180.4	178.9	178.4	177.5	160.4	158.3	157.7	156.6	20.0	20.6	20.7	20.9	44.4	43.6	43.4	43.4
Employer Coverage	150.2	148.7	150.0	148.0	140.8	138.7	139.8	138.0	9.4	10.0	10.1	10.1	40.6	39.9	39.8	39.8
Other Private Coverage	30.3	30.3	28.6	29.6	19.7	19.7	18.0	18.8	10.6	10.6	10.6	10.8	4.0	3.8	3.8	3.8
Total With Public Health Insurance	54.5	58.1	61.2	63.2	26.2	29.2	31.7	33.4	28.3	28.9	29.5	29.8	11.2	13.2	14.7	15.7
Medicaid	21.1	24.2	26.8	28.5	18.5	21.6	23.9	25.6	2.6	2.6	2.9	2.9	10.0	12.0	13.5	14.5
Medicare	31.5	32.3	32.9	33.7	3.2	3.5	3.5	4.0	28.2	28.8	29.4	29.7	1.2**	1.2**	1.2**	1.3**
CHAMPUS/CHAMPVA*	7.0	7.0	7.1	6.9	5.9	5.9	5.9	5.7	1.1	1.1	1.2	1.2				
No Health Insurance	34.7	36.0	36.6	38.9	34.4	35.7	36.3	38.5	0.3	0.3	0.3	0.4	9.9	9.8	9.6	9.8
Without Employer Coverage	n.a.	n.a.	n.a.	n.a.	72.9	77.2	78.3	82.8	n.a.	n.a.	n.a.	n.a.	22.6	24.3	25.3	26.3

TABLE 7.5 (cont.)
Sources of Health Insurance Coverage, 1989-92
(Percentage)

Source of Coverage	Total Population				Nonelderly Including Children				Elderly				Children			
	1989	1990	1991	1992	1989	1990	1991	1992	1989	1990	1991	1992	1989	1990	1991	1992
Total Population	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total With Private Health Insurance	74.2	72.7	71.7	70.5	75.1	73.3	72.3	70.9	67.7	68.4	67.7	67.7	70.3	67.9	66.7	65.7
Employer Coverage	61.3	60.4	60.3	58.8	65.4	64.2	64.1	62.5	32.0	33.2	33.1	32.6	64.3	62.2	61.1	60.2
Other Private Coverage	12.4	12.3	11.5	11.8	9.2	9.1	8.2	8.5	35.7	35.2	34.7	35.0	6.3	5.9	5.8	5.7
Total With Public Health Insurance	22.4	23.6	24.6	25.1	12.3	13.5	14.5	15.1	95.8	96.0	96.3	96.6	17.7	20.6	22.6	23.8
Medicaid	8.7	9.8	10.8	11.3	8.7	10.0	11.0	11.6	8.7	8.6	9.5	9.4	15.9	18.7	20.7	21.9
Medicare	12.9	13.1	13.2	13.4	1.5	1.6	1.6	1.8	95.6	95.7	96.0	96.2	1.8**	1.9**	1.9**	1.9**
CHAMPUS/CHAMPVA*	2.9	2.8	2.9	2.7	2.8	2.7	2.7	2.6	3.7	3.7	3.8	3.9				
No Health Insurance	14.3	14.6	14.7	15.4	16.1	16.5	16.6	17.4	1.0	1.0	0.9	1.2	15.6	15.3	14.7	14.8
Without Employer Coverage	n.a.	n.a.	n.a.	n.a.	34.6	35.8	35.9	37.5	n.a.	n.a.	n.a.	n.a.	35.7	37.8	38.9	39.8

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* Includes only the retired military and members of their families provided coverage through the Civilian Health and Medical Program for the Uniformed Services and the Civilian Health and Medical Program of the Veterans Administration. Excludes active-duty military personnel and members of their families.

** Includes CHAMPUS/CHAMPVA.

Note: Individual items may not add to totals because people may receive coverage from more than one source.

Source: EBRI (1994).

coverage of the poor not increased—the program added 7.4 million during the same period—the numbers of uninsured would have risen even more.

Employer-sponsored health insurance commonly is viewed as the foundation of the health insurance system for the nonelderly population. However, less than two-thirds of the nonelderly had employer-sponsored coverage in 1992; between 1989 and 1992 the number of nonelderly without such coverage grew by an average of over 3 million per year.

The number of uninsured children changed little between 1989 (9.9 million) and 1992 (9.8 million), although the percentage without coverage fell by 0.8 percentage points. Largely because of changes in eligibility requirements, the number of children covered by Medicaid rose by 4.3 million during the period, to 14.5 million beneficiaries (21.9% of all children). The increase in Medicaid coverage was offset largely by a 3.7 million decline in the number of children with employer-sponsored health insurance received through a family member. In 1992, 39.8% of children were not covered by employer-sponsored health insurance.

In 1992, 1.2% of the elderly were uninsured. Over two-thirds had coverage in addition to Medicare, either provided by an employer (e.g., retiree health insurance) or purchased privately.

The numbers in Table 7.5 reflect insurance coverage held by people at the point in time the survey was conducted. However, over the course of a year, many additional people gain or lose insurance. As shown in **Table 7.6**, 58 million people (23% of the population) were without insurance coverage at some point in 1992, an increase over 1987, when 50 million people (21% of the population) were without insurance at some time.

Table 7.7 shows how long people remain without coverage once they become uninsured. During 1987-89, among people who were uninsured at a

TABLE 7.6
People Uninsured at Some Time During the Year, 1987 and 1992

Year	Number of Uninsured (Millions)	Percent of Population
1987	50	21%
1992	58	23

Sources: Swartz (1994); and Short (1992).

TABLE 7.7
Duration of Episodes Without Insurance*

Episode Length in Months	People Uninsured at Point in Time, 1987-89 (% of Total)	All New Uninsured Episodes During the Year 1987-89	1984-86
1-4	3.5%	47.0%	50.4%
5-8	11.6	15.4	16.5
9-12	9.8	8.2	7.7
13-16	8.1	5.1	5.3
17-24	13.0	4.2	5.3
25+	53.9	20.1	14.8
Total	100.0	100.0	100.0

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* Based on an analysis of uninsurance patterns for 28 months during 1984-86 or 1987-89.

Source: McBride (1994).

single point in time, 53.9% had been uninsured for over two years; just 3.5% had been uninsured for less than five months. Thus, at any one time, most of the uninsured have been without coverage for more than two years, and the average length of uninsured episodes appears to be growing. In 1984-86, of the people who lost coverage for some time over the course of a year, 50.4% regained coverage in less than five months, and just 14.8% were uninsured for more than two years. Between 1987 and 1989, 47% regained coverage in less than five months, and 20.1% remained uninsured for over two years. In summary, over the course of a year many people lose insurance coverage but regain it within a few months. However, at any point, most of the uninsured will have been without coverage for over two years.

The characteristics of workers and their firms by type of insurance are shown in **Table 7.8**. In 1992, workers in government, mining, and manufacturing were the most likely to receive health insurance from their own employer. Fewer than 50% of workers in agriculture, construction, retail trade, and services other than professional received such insurance, and workers in these industries were also the most likely to be uninsured. The likelihood of having insurance coverage and the probability of receiving coverage through one's own employer rises with wages and family income. Workers below age 30 are most likely to be uninsured and least likely to receive insurance through an employer. Insurance coverage and the likelihood of coverage through one's own employer also rise with firm size.

TABLE 7.8
Primary Source of Health Insurance for Workers Under Age 65, by Demographic Category, 1992

Category	Number of Workers (Millions)	Percentage Distribution by Source of Insurance					
		Own Employer	Other Employer	Individual Policy	Public Insurance*	No Insurance	Total
All Workers	107.3	60.2%	14.8%	7.6%	2.3%	15.2%	100.0%
Industry							
Agriculture	2.6	24.2%	14.2%	25.2%	3.4%	33.0%	100.0%
Construction	6.3	45.5	14.2	9.7	2.4	28.2	100.0
Finance	7.3	65.7	15.9	7.9	1.1	9.5	100.0
Government	5.3	83.8	8.3	1.9	1.5	4.5	100.0
Manufacturing	19.1	76.9	8.0	3.2	1.2	10.7	100.0
Mining	0.6	81.1	6.0	3.0	1.1	8.7	100.0
Retail Trade	16.1	42.4	18.4	10.6	3.8	24.9	100.0
Services							
Professional	26.2	62.1%	19.6%	7.0%	2.3%	8.9%	100.0%
Other	11.4	39.0	18.7	12.1	3.9	26.2	100.0
Transportation	7.9	77.1	7.5	4.7	1.0	9.6	100.0
Wholesale Trade	4.5	67.2	13.4	6.3	1.5	11.6	100.0
Wage Rate**							
Below $5.00	9.0	21.6%	18.3%	12.0%	9.9%	38.2%	100.0%
$5.00 to $9.99	36.9	53.7	17.5	6.2	2.8	19.8	100.0
$10.00 to $14.99	24.2	76.0	11.5	3.9	0.8	7.7	100.0
$15.00 or More	23.7	84.9	8.2	2.9	0.3	3.7	100.0
Family Income as a Percentage of Poverty Level							
Under 100	6.5	16.4%	2.8%	12.8%	15.7%	52.3%	100.0%
100 to 199	15.4	43.4	9.3	9.2	4.9	33.2	100.0
200 to 299	19.7	58.2	14.9	7.9	1.5	17.5	100.0
300 and Over	65.7	69.1	17.2	6.6	0.5	6.6	100.0
Firm Size (No. of Employees)							
Fewer Than 10	21.2	24.6%	24.6%	19.9%	3.2%	27.7%	100.0%
10 to 24	9.3	46.4	18.4	9.5	3.3	22.4	100.0
25 to 99	13.7	57.5	14.6	5.9	2.6	19.4	100.0
100 to 499	15.2	69.4	12.6	4.1	2.2	11.7	100.0
500 to 999	6.0	74.8	11.7	3.6	1.6	8.4	100.0
1,000 or More	41.7	76.9	10.2	3.3	1.6	8.0	100.0
Age (Years)							
Under 30	26.7	51.9%	11.4%	8.6%	3.4%	24.6%	100.0%
30 to 39	33.5	61.4	15.9	5.9	2.3	14.5	100.0
40 to 49	26.8	64.1	17.2	6.8	1.5	10.3	100.0
50 to 64	20.2	64.2	14.1	10.0	1.5	10.2	100.0

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* Public insurance includes Medicaid, Medicare, and coverage provided by the Department of Veterans Affairs.

** "Wage" is the hourly wage for hourly employees and earnings per week divided by hours worked for nonhourly employees. The figures exclude individuals for whom an hourly wage could not be determined.

Source: CBO (1994b).

Firms offering coverage are increasingly requiring their employees to pay part of the premium (**Table 7.9**). In 1985, 61% of full-time workers in medium and large private establishments (100 or more employees) received employer-sponsored health insurance for themselves that was paid for entirely by their employer; 42% had family coverage paid wholly by their employer. By 1991, those numbers dropped to 41% and 26%, respectively. A similar trend occurred between 1970 and 1992 (the only years for which data are available) for employees in small private firms and in state and local government.

Of the uninsured, 99% are below age 65, so our analysis focuses on the nonelderly. As shown in **Table 7.10**, a breakdown of the work status of family

TABLE 7.9
Participation* in Employer-Sponsored Insurance Plans, Various Years
(Percent of All Full-Time Employees)

	Medium and Large Private Establishments				Small** Private Establishments		State and Local Government	
	1985	1988	1989	1991	1990	1992	1990	1992
Medical Care Coverage	96%	90%	92%	83%	69%	71%	93%	90%
Employee Coverage								
Wholly Employer Financed	61%	51%	48%	41%	40%	37%	58%	51%
Partly Employer Financed	35	40	44	42	29	33	35	39
Family Coverage								
Wholly Employer Financed	42%	32%	31%	26%	22%	19%	32%	25%
Partly Employer Financed	53	58	60	57	46	51	60	65
Dental Care Coverage	n.a.	60%	66%	60%	30%	33%	62%	65%
Employee Coverage								
Wholly Employer Financed	n.a.	40%	34%	35%	17%	19%	51%	46%
Partly Employer Financed	n.a.	21	32	25	12	14	11	19
Family Coverage								
Wholly Employer Financed	n.a.	30%	25%	26%	11%	10%	38%	31%
Partly Employer Financed	n.a.	30	42	34	19	23	25	34

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* Participants are workers covered by an insurance plan. Employees subject to a minimum service requirement before they are eligible for benefit coverage are counted as participants even if they have not met the requirement at the time of the survey. If employees are required to pay part of the cost of a benefit, only those who elect the coverage and pay their share are counted as participants. Benefits for which the employee must pay the full premium are outside the scope of the survey. Only current employees are counted as participants; retirees are excluded.

** Less than 100 employees, nonagricultural.

Source: Bureau of Labor Statistics (1986, 1989-94).

TABLE 7.10
Uninsured Nonelderly Population, by Work Status of Family Members, 1992

Work Status	Number of Uninsured (Millions)	Percent of All Uninsured
Family Head: Full-Time, Full-Year Worker	7.3	19.0%
Other Adults in Family		
Working	5.2	13.4%
Not Working	2.3	5.9
Children	5.4	14.1
Subtotal	20.2	52.4
Family Head: Works, But Not Full-Time, Full-Year	6.3	16.4%
Other Adults in Family		
Working	2.0	5.2
Not Working	1.1	2.8
Children	2.9	7.6
Subtotal	12.3	32.0
Family Head: Nonworker	2.3	5.8%
Other Adults in Family		
Working	1.1	2.7
Not Working	1.3	3.3
Children	1.4	3.7
Subtotal	6.1	15.5
Total	38.5	100.0%

Source: Employee Benefit Research Institute (1994).

members of the nonelderly uninsured in 1992, 52.4% of the uninsured are full-time, full-year workers or family members of such workers. Another 32% work either part time or part year or are family members of these workers. Just 15.5% of the uninsured (6.1 million) are in families where the family head does not work. However, in these families there are often other members who work (1.1 million), and there are 1.4 million children. A minimum of 90.8% of the uninsured are workers, family members of workers, or children.

Table 7.11 shows the demographic characteristics of the nonelderly uninsured. The uninsured are found at every income level, although the share is larger among those with low family incomes: approximately one-third of people with family income below 150% of the poverty level are uninsured.

TABLE 7.11
The Nonelderly Uninsured, 1992

	Share of All Uninsured	Percent Uninsured Within Group
By Family Income as a Percent of Poverty		
0-99%	28.1%	32.7%
100-124%	9.0	35.6
125-149%	8.8	35.3
150-199%	14.5	27.7
200-399%	26.9	13.9
400% or More	12.7	6.7
Total	100.0	
By Race		
White	58.6%	13.9%
Black	17.1	23.1
Hispanic	19.5	35.1
Other	4.9	22.0
Total	100.0	
By Location		
Urban	77.0%	17.1%
Rural	23.0	18.6
Total	100.0	
By Age		
Under 18	25.5%	14.8%
18-29	30.1	26.9
30-44	27.0	16.8
45-64	17.4	13.5
Total	100.0	

Source: Employee Benefit Research Institute (1994).

Of all the uninsured, 26.9% have family incomes between 200% and 399% of poverty. Most of the uninsured are white, although minority populations account for a disproportionately large share. Hispanics are most likely to be uninsured: only 65% have insurance. Most of the uninsured live in urban areas, although the likelihood of being uninsured is slightly greater in rural areas. While the uninsured are found in every age group, the risk of being uninsured is greatest for 18–29-year-olds.

Lack of insurance has adverse effects on health outcomes, as shown in **Table 7.12**. Based on their admission diagnoses and holding constant sex,

TABLE 7.12
Relative Probability of Death,[1] Uninsured Compared to Privately Insured Patients, by Age, Sex, and Race, 1987

Sex, Age, and Race	On Admission to Hospital	While in Hospital Controlling for Condition on Admission
Males		
Age 1-17		
White	1.57	1.46
Black	1.56[3]	1.88
Age 18-34		
White	1.62[4]	1.34[4]
Black	2.09[4]	1.92[4]
Age 35-49		
White	1.80[4]	1.45[4]
Black	1.59[4]	3.20[4]
Age 50-64		
White	1.45[4]	1.23[4]
Black	1.44[4]	1.08[3]
Females		
Age 1-17		
White	2.00[4]	2.37[3]
Black	1.81	2.56[4]
Age 18-34		
White	1.80[4]	1.48[2]
Black	1.04[4]	1.60
Age 35-49		
White	1.62[4]	0.92
Black	2.24	1.60[3]
Age 50-64		
White	1.52[4]	1.15[2]
Black	1.88[4]	1.35[3]

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[1] The ratio of the expected in-hospital mortality rate calculated for each patient on admission based on their diagnosis, adjusted for age, race, and sex; the presence of other illnesses or medical conditions and the risk of death associated with these conditions; and the principal operative procedure (if any).

[2] $0.05 < p \leq 0.10$. The probability that the actual risk of death is identical for the insured and uninsured is between 5% and 10%.

[3] $0.01 < p \leq 0.05$. The probability that the actual risk of death is identical for the insured and uninsured is between 1% and 5%. The difference identified is considered statistically significant.

[4] $p \leq 0.01$. The probability that the actual risk of death is identical for the insured and uninsured is ≤ 1%. The difference identified is considered highly statistically significant.

Source: Hadley, Steinberg, and Feder (1991).

age, and race, patients without private insurance who were admitted to hospitals were more severely ill and had a higher risk of death than were privately insured patients of similar sex, age, and race. For example, uninsured males age 18-34 faced a risk of death that was 1.62 times greater for whites and 2.09 times greater for blacks than their insured counterparts. Even after adjusting for their more serious condition at the time of admission to the hospital, uninsured patients still had a higher probability of in-hospital death. The probability of death for uninsured black males age 35-49 was 3.2 times the rate for similar patients with private insurance. Among white males of this age group, the probability of death for the uninsured was 1.45 times that for the insured. For white and black uninsured females age 1-17, the probability of death was, respectively, 2.37 and 2.56 times higher than for insured patients of similar age, sex, and race.

Health Outcomes

Despite high health expenditures in the United States, outcomes are often worse here than in other industrialized countries. Outcome measures depend, of course, upon more than just the health care system. In particular, measures of life expectancy (the average number of years of life remaining to a person at a particular age) and infant mortality (number of deaths in the first year of life per 100 live births) also reflect general living standards and the socioeconomic status of a country's inhabitants. Because there are greater levels of poverty in the United States than in other major industrialized countries, relatively lower life expectancy and higher infant mortality rates would be expected.

The United States ranked lowest among eight industrialized countries in infant mortality in 1991 (**Table 7.13**). Although there are recognized measurement problems with this indicator, taking these problems into account would only slightly improve the relative position of the United States.

Low-weight births are a major contributor to deaths in infancy, and U.S. rates surpass those of other industrialized countries (**Table 7.14**). The major factors contributing to low birth weights are inadequate prenatal care, substandard nutrition, teenage pregnancies, substance abuse (including tobacco use), and poverty. Indeed, in the United States the high infant mortality rate is due primarily to factors other than inadequate medical treatment of ill infants. However, intensive intervention during pregnancy has been shown to reduce dramatically the incidence of low birth weight.

Infant mortality rates in the United States are improving. However, large

TABLE 7.13
Infant Mortality Rate,* 1991

Country	Deaths per 100 Live Births	Rank
Australia	0.71	3
Canada	0.68**	2
France	0.83	6
Germany	0.71**	3
Italy	0.83	6
Japan	0.46**	1
United Kingdom	0.74	5
United States	**0.89**	**8**

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* Deaths in the first year of life per 100 live births.

** 1990 data.

Source: OECD (1993c).

TABLE 7.14
Low Birth Weight (Less Than 5.5 lbs.), 1990

Country	Percent of All Live Births	Rank
Australia	5.50%*	3
Canada	5.40	2
France	5.26	1
Germany	5.92**	5
Italy	5.61**	4
Japan	6.33	6
United Kingdom	6.40	7
United States	**7.05***	**8**

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* 1989 data.

** 1988 data.

Source: OECD (1993c).

disparities by race persist (**Table 7.15**), and they grew bigger during the 1980s. (Disparities would probably be even more extreme across income groups, but the data are inadequate to examine this question.) Most of the gap can be explained by differences in access to prenatal care, poverty, nutrition, rates of teenage births, and other socioeconomic factors; it has little to do with any biological factors associated with race. During the 1960s, the rate for blacks improved slightly more than for whites, declining 26% compared to 22%, and the ratio of infant mortality of blacks to whites fell from 1.93 to 1.83. From 1970 to 1980 the rate fell somewhat faster for whites than for blacks, and the ratio grew slightly, to 1.95. However, between 1980 and 1991, the gap widened markedly. While the rate for whites fell 32%, the rate for

TABLE 7.15
Infant Mortality,* United States, by Race, 1960-91

Year	All Races	White	Black	Ratio Black/White
1960	2.60	2.29	4.43	1.93
1970	2.00	1.78	3.26	1.83
1975	1.61	1.42	2.62	1.85
1980	1.26	1.10	2.14	1.95
1981	1.19	1.05	2.00	1.90
1982	1.15	1.01	1.96	1.94
1983	1.12	0.97	1.92	1.98
1984	1.08	0.94	1.84	1.96
1985	1.06	0.93	1.82	1.96
1986	1.04	0.89	1.80	2.02
1987	1.01	0.86	1.79	2.08
1988	1.00	0.85	1.76	2.07
1989	0.98	0.82	1.77	2.16
1990	0.92	0.77	1.70	2.21
1991	0.89	0.75	1.65	2.20
Percent Change				
1960-70	-23%	-22%	-26%	
1970-80	-37	-38	-34	
1980-91	-29	-32	-23	

* Deaths under one year of age per 100 live births.

Source: U.S. Department of Health and Human Services, National Center for Health Statistics (1994).

blacks fell just 23%, making infant mortality among blacks 2.2 times as likely as among whites.

The United States also lags behind many other industrialized countries in life expectancy. **Table 7.16** shows life expectancy at birth and ages 40, 60, and 80 for men and women in eight countries in 1990. Out of the eight nations, the United States ranks seventh in life expectancy at birth for women and last for men. For age 40, the United States is in seventh place for both men and women; by age 60, U.S. women rank sixth and U.S. men fifth; and by age 80, American women rank second and men rank first (tied with Canada). It is difficult to know the exact role the health care system plays in these rankings and in the changes in rank that occur with advancing age.

TABLE 7.16
Life Expectancy, 1990

	At Birth				Age 40			
	Female		Male		Female		Male	
	Years	Rank	Years	Rank	Years	Rank	Years	Rank
Australia	80.0	4	73.9	2	41.5	4	36.4	2
Canada	80.4	3	73.8	3	41.9	3	36.2	3
France	80.9	2	72.7	6	42.4	2	35.2*	5
Germany	79.0*	6	72.6*	7	40.4*	6	34.7*	8
Italy	80.0*	4	73.5*	4	41.4*	5	35.7*	4
Japan	81.9	1	75.9	1	43.0	1	37.6	1
United Kingdom	78.5	8	73.0	5	39.9	8	34.9	6
United States	**78.8**	**7**	**72.0**	**8**	**40.2****	**7**	**34.8****	**7**
	Age 60				Age 80			
Australia	23.1	4	18.8	4	8.6	4	6.8	4
Canada	23.7	3	18.9	3	9.3	1	7.1	1
France	24.2	2	19.0	2	8.6	4	6.8*	4
Germany	22.2*	7	17.8*	7	7.6***	8	6.1***	8
Italy	22.9*	5	18.3*	6	8.0*	7	6.4*	6
Japan	24.4	1	20.0	1	8.7	3	6.9	3
United Kingdom	21.8	8	17.5	8	8.2	6	6.2	7
United States	**22.7***	**6**	**18.6***	**5**	**9.0***	**2**	**7.1***	**1**

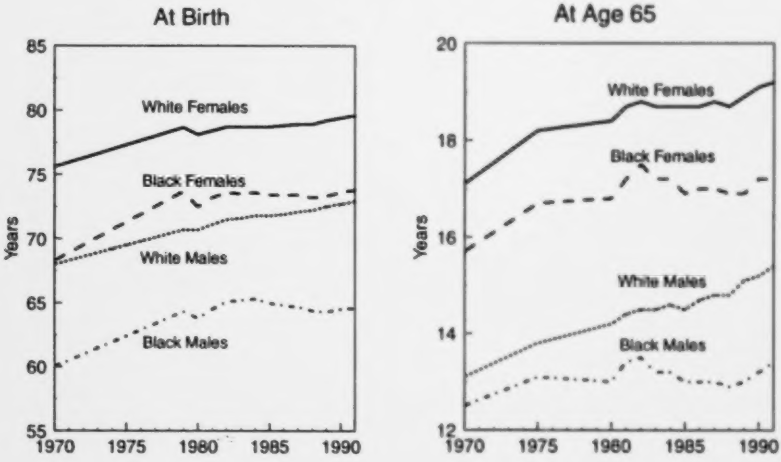
* 1989 data.
** 1988 data.
*** 1987 data.

Source: OECD (1993c).

Clearly, the unfavorable position of Americans at birth is not due solely to the relatively higher rate of infant death or even to events in the first few decades of life, since the poor ranking continues at age 40 and even to age 60. The low overall position of the American population points instead to socioeconomic conditions that are worse in the United States than in most other industrialized countries (see Chapter 8).

There are large differences in life expectancy by class and race in the United States. At shown in **Figure 7D**, white males born in 1991 could expect to live 72.9 years, compared to 64.6 years for black males. White females had a 5.8-year advantage over black females. At age 65, white men and women continue to have a two-year advantage over their black counterparts. Differences by race have increased in recent years. During the 1980s, life expectancy both at birth and at age 65 fell for both black males and females; life expectancies for blacks at age 65 have not returned to the levels of 1982.

FIGURE 7D
Life Expectancy* at Birth and Age 65, by Sex and Race, 1970-91



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* Life expectancy is the average number of years of life remaining to a person at a particular age and is based on a given set of age-specific death rates, generally the mortality conditions existing in the period mentioned.

Source: U.S. Department of Health and Human Services, National Center for Health Statistics (1994).

Table 7.17 shows death rates among persons age 25-64 in 1986 by sex and race. In each race-sex category, increases in education or income dramatically reduce death rates. For example, white men age 25-64 with incomes of at least $25,000 died at a rate that was just 15% of the rate of white men with incomes below $9,000. **Table 7.18** shows the change in death rates by education level and sex between 1960 and 1986. Over this period, the differential effects of education on mortality increased. While death rates declined for people of all levels of education, the declines were greatest for both men and women with higher educational attainment. Thus, over this period, the disparities in death rates by education rose, not fell. In 1960, white men age 25-64 with high levels of education died at a rate that was 63% of the rate for white men with low levels of education. In 1986, the ratio had fallen to 37%.

Five-year cancer survival rates provide another example of differential outcomes within the health care system. Cancer survival depends on early diagnosis—that is, ready access to the health care system when symptoms arise and access to prevention and screening—and on high-quality treatment once the diagnosis has been made. **Table 7.19** shows five-year cancer survival rates by race and sex in 1974-76 and 1983-90. For most types of cancer,

TABLE 7.17
Death Rates Among Persons Age 25-64
in Selected Education and Income Groups, by Race and Sex, 1986
(Deaths per 1,000)

	White		Black	
Group	Men	Women	Men	Women
Education *(Years Completed)*				
0-11	7.6	3.4	13.4	6.2
12	4.3	2.5	8.0	3.9
College				
1-3	4.3	2.1	5.0	3.2
4 or More	2.8	1.8	6.0	2.2
Income				
Less Than $9,000	16.0	6.5	19.5	7.6
$9,000-14,999	10.2	3.4	10.8	4.5
$15,000-18,999	5.7	3.3	9.8	3.7
$19,000-24,999	4.6	3.0	4.7	2.8
$25,000 and Above	2.4	1.6	3.6	2.3

Source: Pappas et al. (1993).

TABLE 7.18
Death Rates Among Whites Age 25-64, by Sex and Education, 1960 and 1986 (Deaths per 1,000)

	1960	1986	Percent Change
Men			
Low Education	9.0	7.6	-16%
High Education	5.7	2.8	-51
Ratio High/Low Educ.	0.63	0.37	
Women			
Low Education	5.2	3.4	-35%
High Education	3.0	1.8	-40
Ratio High/Low Educ.	0.58	0.53	

Note: Death rates shown are per 1,000 population after direct adjustment for age to the 1940 U.S. population. Low level of education was defined in 1960 as less than eight years of schooling and in 1986 as less than 11 years of schooling. High level of education was defined in 1960 as greater than or equal to one year of college and in 1986 as greater than or equal to four years of college.

Sources: Pappas et al. (1993); and author's calculations.

survival rates were lower for blacks than for whites. For example, after being diagnosed with cancer of the lung or bronchus, 12.1% of white men, but only 10.6% of black men, would be alive after five years. While survival rates generally have been improving, the improvement has been greater for whites than for blacks. Thus, the differences in survival, by race, have increased. In 1974-76, the number of black males with cancer who were alive five years after diagnosis was 75% that of white males. By 1983-90, the ratio had fallen to 0.70 (70%). For women, the black-to-white ratio declined from 0.82 to 0.76; for black women, average survival rates actually declined.

The lower survival rates for blacks compared to whites could indicate that diagnosis and treatment occurred later in the course of the disease for blacks compared to whites; therefore, the disease could have been more difficult to treat, and remission and cure would have been less likely. The lower rates could also indicate that blacks received poorer-quality or less-efficacious treatment, or that blacks had more concomitant illnesses than whites, making it more difficult to treat their cancer successfully. All these factors, which are related primarily to socioeconomic conditions rather than to biological factors associated with race, probably contribute to the disparities in survival rates.

TABLE 7.19
Five-Year Relative Cancer Survival Rates, by Race and Sex, 1974-76 and 1983-90

	White		Black		Ratio: Black/White Survival Rate	
Sex and Site	**1974-76**	**1983-90**	**1974-76**	**1983-90**	**1974-76**	**1983-90**
Male						
All Sites	41.9%	50.8%	31.3%	35.7%	0.75	0.70
Oral Cavity and Pharynx	54.3	52.5	31.2	28.5	0.57	0.54
Esophagus	4.3	9.9	2.1	5.5	0.49	0.56
Stomach	13.2	15.5	15.5	16.9	1.17	1.09
Colon	49.8	62.0	44.1	49.2	0.89	0.79
Rectum	47.8	58.2	34.1	46.7	0.71	0.80
Pancreas	3.1	2.4	1.4	4.5	0.45	1.88
Lung and Bronchus	11.0	12.1	11.0	10.6	1.0	0.88
Prostate Gland	67.7	81.3	58.0	66.4	0.86	0.82
Urinary Bladder	74.5	82.6	54.1	66.0	0.73	0.80
Non-Hodgkin's Lymphoma	47.7	50.6	43.1	42.1	0.90	0.83
Leukemia	33.5	39.9	32.6	29.3	0.97	0.73
Female						
All Sites	57.4%	59.8%	46.8%	45.5%	0.82	0.76
Colon	50.8	59.9	46.6	50.1	0.92	0.84
Rectum	49.7	58.7	49.3	50.6	0.99	0.86
Pancreas	2.1	3.5	3.1	5.3	1.48	1.51
Lung and Bronchus	15.8	16.2	13.1	12.3	0.83	0.76
Melanoma of Skin	84.8	89.4	n.a.	77.9	n.a.	0.87
Breast	74.9	81.6	62.9	65.8	0.84	0.81
Cervix Uteri	69.2	69.9	63.5	56.4	0.92	0.81
Corpus Uteri	88.6	84.9	60.4	55.2	0.68	0.65
Ovary	36.3	41.6	40.1	38.4	1.10	0.92
Non-Hodgkin's Lymphoma	47.3	55.0	54.1	49.5	1.14	0.90

Notes: Rates are based on followup of patients through 1991. The rate is the ratio of the observed survival rate for the patient group to the expected survival rate for persons in the general population similar to the patient group with respect to age, sex, race, and calendar year of observation. It estimates the chance of surviving the effects of cancer.

Sources: U.S. Department of Health and Human Services; National Center for Health Statistics (1994); and author's calculations.

Satisfaction With the Health Care System

Among industrialized nations, there are wide differences in satisfaction with health care systems. In general terms, satisfaction appears to rise with increases in expenditures—except in the United States. For the 10 countries ranked in **Table 7.20**, Americans are the least satisfied with their health care system (that is, fewer respondents said "only minor changes are necessary to make it work better"). Canadians are the most satisfied.

TABLE 7.20
Satisfaction With the Health Care System, Selected Industrialized Countries, 1990

Country	Minor Changes Needed*	Fundamental Changes Needed**	Completely Rebuild System***	Health Expenditure (Percent GDP)
Canada	56%	38%	5%	9.5%
Netherlands	47	46	5	8.2
West Germany	41	35	13	8.3
France	41	42	10	8.8
Australia	34	43	17	8.2
Sweden	32	58	6	8.6
Japan	29	47	6	6.5
United Kingdom	27	52	17	6.2
Italy	12	46	40	8.1
United States	**10**	**60**	**29**	**12.2**

---

* On the survey, the question was worded as follows: "On the whole, the health care system works pretty well, and only minor changes are necessary to make it work better."

** "There are some good things in our health care system, but fundamental changes are needed to make it work better."

*** "Our health care system has so much wrong with it that we need to completely rebuild it."

Source: Blendon et al. (1990).

The Cause of High Health Expenditures in the United States

A number of factors help explain the high level of health expenditures in the United States. First, the large number of machines and high-tech equipment available encourages a relatively high volume of procedures and tests to be done. Furthermore, underutilization of these machines and facilities can raise the cost of each test. **Table 7.21** shows the comparative availability of six

TABLE 7.21
Comparative Availability of Selected Medical Technologies

	United States (1987)		Canada (1987)		Germany (1989)		Ratio (Units per Million Persons)	
	Number of Units	Units Per Million Persons	Number of Units	Units Per Million Persons	Number of Units	Units Per Million Persons	U.S./ Canada	U.S./ Germany
Open-Heart Surgery	793	3.26	32	1.23	45*	0.74	2.7	4.4
Cardiac Catheterization	1,234	5.06	39	1.50	161	2.64	3.4	1.9
Organ Transplantation	319	1.31	28	1.08	28*	0.46*	1.2	2.8
Radiation Therapy	967	3.97	14	0.54	191	3.13	7.4	1.3
Extracorporeal Shock Wave Lithotripsy**	228	0.94	4*	0.16*	21	0.34	5.9	2.8
Magnetic Resonance Imaging (MRI)	900	3.69	12*	0.46*	57	0.94	8.0	3.9

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* 1988 data.

** Used to break up kidney stones.

Sources: Rublee (1989); and author's calculations.

different medical technologies in Canada, Germany, and the United States. In each case, availability is much greater here than in the other two countries.

High administrative costs also contribute to high expenditures. In 1987, per capita administrative expenditures in the United States were 3.2 to 3.4 times the level in Canada (**Table 7.22**).

Doctors are also relatively higher paid in the United States than in other industrialized countries (**Table 7.23**). Physician earnings in the United States are 5.2 times the average compensation per employee, the highest multiple of any of the major industrialized countries.

When prices for health care services rise faster than the general level of inflation in the economy, medical care will absorb a growing share of GDP even if the volume of services purchased remains unchanged. Medical-specific inflation (inflation in the medical care sector above the inflation level in the economy as a whole) is difficult to measure. For example, part of an increase in price may be due to an improvement in the quality of the good or service produced. This element of the price increase—often hard to determine—should not be considered inflation. However, because these measurement problems are present in each country's measure of medical-specific inflation, they should not bias any country's measure compared to another's. **Table 7.24** shows the average annual rate of medical-specific inflation in many major industrialized countries as well as the average rate for Europe and the OECD nations. The United States ranks highest by far.

TABLE 7.22
Cost of Health Care Administration in the United States and Canada, 1987

Cost Category	Spending Per Capita* United States	Spending Per Capita* Canada	Ratio of United States to Canada
Insurance Administration	106	17	6.2
Hospital Administration	162	50	3.2
Nursing Home Administration	26	6	4.3
Physicians' Overhead and Billing Expenses	106-203	41-80	2.5-2.6
Total Costs of Health Care Administration	400-497	117-156	3.2-3.4

* Converted with the purchasing-power parity indices for GDP.

Sources: Woolhandler and Himmelstein (1991); and author's calculations.

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TABLE 7.23
Physician Earnings, Major Industrialized Countries, 1989

Country	Ratio of Physician Earnings to Average Employee Compensation in Each Country
Australia*	2.3
Canada	3.6
France	2.0
Germany*	4.3
Japan	2.1
Sweden	2.0
United Kingdom**	2.4
United States	**5.2**

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* 1986 data.

** 1987 data.

Source: Author's analysis of OECD (1993c) data.

TABLE 7.24
Medical-Specific Inflation,* 1980-90 (Average Annual Rates of Increase)

Australia	0.3%
Canada	1.8
France	-0.9
Germany	0.7
Italy	0.6
Japan	0.9
Sweden	-0.6
United Kingdom	1.3
United States	**2.7**
Europe**	0.5
OECD Total**	0.7

---

* Medical-specific inflation is defined as the excess of health care price increases over those of all goods and services.

**The European and OECD averages are unweighted and exclude Turkey.

Source: OECD (1993c).

Utilization and Expenditures

In the health reform debates of 1994, many policy makers and politicians argued that people need to become more cost conscious, and they proposed two changes toward this end. First, families would be required to contribute to the cost of any premium that was of greater than average cost. Second, additional fees would be charged for every physician visit and prescription drug. The only exception would be for visits for preventive care. The purpose of these fees was to encourage consumers to forego or delay less necessary care.

The purpose of imposing out-of-pocket fees at the time nonpreventive services are received is to reduce the use of services. The implication is that an important cause of high health expenditures in the United States is too many visits to the doctor and too many days in the hospital. But a comparison with other industrialized countries (**Table 7.25**) shows that Americans' doctor visits and days in the hospital are already comparatively low.

TABLE 7.25
Utilization Rates, Selected OECD Countries, 1990

	Hospital Bed Days Per Capita	Physician Contacts Per Capita
Australia	2.9*	8.8
Austria	3.0	5.8*
Belgium	2.6	7.6*
Canada	2.0	6.9
Denmark	1.7	5.6*
France	2.9	7.2*
Germany	3.3	11.5**
Ireland	2.8	6.6**
Italy	1.8	11.0**
Japan	4.1	12.9**
Netherlands	3.7	5.5
Norway	5.0	5.7****
Sweden	3.5	2.8
Switzerland	2.9	6.0***
United Kingdom	2.0	5.7*
United States	**1.2**	**5.5**
OEDC Average	2.7	6.2

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*1989 data. **1988 data. ***1987 data. ****1985 data.

Source: Schieber, Poullier, and Greenwald (1993).

Proponents of the view that Americans need to be more cost conscious would bring this about by increasing cost sharing, that is, by raising copayments and coinsurance and narrowing the range of services covered by insurance. But as shown in **Table 7.26**, cost-sharing levels in the United States are already higher than in most major countries, all of which have lower total health expenditures. This suggests that a high level of cost sharing is not necessary for effective cost containment, nor does it guarantee low health care expenditures. In fact, the countries with the greatest out-of-pocket payments (the United States and Canada) have the highest expenditures. Moreover, increases in cost sharing would have little effect on the actual causes of high expenditures, described above.

TABLE 7.26
Cost Sharing and Total Health Expenditures, Major Industrialized Countries, 1990

	Percent of Total National Health Expenditures Paid Out-of-Pocket	Expenditures as a Share of GDP (%)
United Kingdom	4%	6.2%
Germany	11	8.1
Japan	12	6.5
France	17	8.8
Canada	20*	9.3
United States	**20**	**12.1**

* No cost sharing for hospital or physician services.

Source: Schieber, Poullier, and Greenwald (1992).

Conclusion

Americans spend one dollar out of every seven on health care, and the costs are regressively distributed—the greatest financial burdens fall on low-income families. Yet despite enormously high expenditures:

- at any point in 1992, 15.4% of the population was uninsured, and over the course of the year 58 million people (23% of the population) found themselves without insurance coverage at some time. People without insurance, on average, are sicker when admitted to the hospital and have higher in-hospital mortality rates than do those with private insurance;

- infant mortality is higher and life expectancy is lower than in most other industrialized countries;
- there are still marked disparities in health outcomes by income, educational attainment, and race, and these differences have increased in recent years;
- public dissatisfaction with the health care system is higher in the United States than in any other major industrialized country.

Imposing additional fees to be paid with each nonpreventive service received, a widely supported measure that many argue would slow the rate of growth of health expenditures, would not address the main causes of high expenditures.

The relatively poor health outcomes in the United States and the disparities by class and race do not necessarily mean that standard medical treatment in the United States is worse than in other counties. These outcomes reflect disparities in access and possibly quality, as well as severe socioeconomic inequities.

Chapter 8

International Comparisons: The United States Is Falling Behind in Productivity and Wage Growth

In this chapter we examine how American workers and their families have fared in comparison to their foreign counterparts. While Americans still rank highest in the world in per capita income as measured by relative purchasing power, on many indicators of economic well-being the United States is falling behind. Compared to other countries, U.S. productivity growth has been relatively stagnant. Likewise, wage growth (which is related to productivity) has been flat or negative here but strong in other countries. Though the U.S. economy seemed to have a faster rate of job growth than other countries during the 1980s, the employment growth is less impressive when population growth is taken into account. In addition, our commitment to labor-market protection measures, such as unemployment compensation and wage subsidies, is much less than that of our competitors.

These trends have led to high levels of U.S. income inequality and poverty relative to other industrialized countries. U.S. wage dispersion, discussed at length in Chapter 3, is particularly high when viewed in an international context. Poverty in the United States is both higher and more persistent than in other countries. Furthermore, the U.S. tax and transfer system became *less* effective at poverty reduction during the 1980s, while the systems of other countries grew *more* effective.

Incomes and Productivity: Sluggish Growth in the United States

One widely accepted measure of living standards is per capita gross domestic product, the total value of goods and services produced in the domestic economy per member of the population. Growth of per capita GDP is considered an essential component of rising living standards. (However, this aggregate measure takes no account of distribution, an issue addressed below.) Such growth comes from two sources: greater output per worker (i.e., higher productivity) and employment of a greater proportion of the adult population. In general, if productivity growth is strong and wages rise accordingly, families can live better without sending more workers into the workforce; if it is weak, living standards can rise only if more people work (or those working put in longer hours). Therefore, it is useful to decompose, or break down, GDP growth into these two factors. **Table 8.1** does this in examining GDP growth over periods—1979-89 and 1989-92 (generally, a cyclical downturn)—for the seven major industrialized countries as well as for two others (Sweden and the Netherlands) for which comparable data are available. The weighted averages (with population shares as the weights) in this and subsequent tables omit the United States in order to provide a more direct comparison between trends in this country and those of others.

Column 1 of Table 8.1 shows the annual growth rates of real per capita GDP for the two periods. Although GDP per person in the United States rose over the 1980s, it grew at a below-average pace (1.5% vs. 2.3%), meaning other countries' per capita incomes were rising faster than ours. At 1.5%, the growth rate for the United States was below the growth rates sustained by Canada (1.8%), Italy (2.1%), and the United Kingdom (2.2%), and was less than half that of Japan (3.3%).

As noted above, of equal importance is whether per capita growth of GDP is generated through higher productivity or through "more work," i.e., an increase in the proportion of the population in the workforce. The U.S. rate of growth attributable to more workers is well above the eight-country average annual rate of 0.3%. Conversely, the U.S. percentage of growth attributable to higher productivity (0.7%) is well below the average of 2.0%. Thus, the United States had less income growth than other countries, and a greater proportion of that growth came from "more work" rather than higher productivity.

The second panel shows the same data for the early 1990s. The short time period covered by these data does not allow any assessment of long-term growth paths because of differences in the timing of the business cycle (e.g., the U.S. downturn occurred in 1990, while the downturn in other countries, like Japan, came later). Nevertheless, the data reveal short-term differences. Between 1989 and 1992, four countries had negative per capita

TABLE 8.1
Per Capita GDP Growth in Nine Countries, 1979-92, Broken Down Into Growth of Employment and Productivity

		Due to:	
	Per Capita GDP Annual Growth Rate	More Employment	Higher Productivity
1979-89			
Canada	1.8%	0.6%	1.2%
Japan	3.3	0.5	2.8
France	1.7	-0.4	2.1
West Germany	1.7	0.3	1.4
Italy	2.2	0.2	2.0
Netherlands	1.1	0.6	0.5
Sweden	1.8	0.5	1.3
United Kingdom	2.2	0.4	1.8
United States	**1.5**	**0.8**	**0.7**
Average*	2.3%	0.3%	2.0%
1989-92			
Canada	-1.6%	-1.9%	0.3%
Japan	3.0	1.3	1.6
France	1.0	-0.3	1.3
West Germany	2.4	0.7	1.7
Italy	1.2	0.4	0.8
Netherlands	1.7	1.3	0.4
Sweden	-1.3	-2.4	1.1
United Kingdom	-1.3	-1.7	0.4
United States	**-0.1**	**-1.1**	**1.0**
Average*	1.3%	0.2%	1.2%

---

* Weighted by population, excluding U.S.

Source: Authors' analysis of BLS data.

For detailed information on table sources, see Table Notes, page 387.

GDP growth, and all countries except two (the Netherlands and Germany) had slower annual growth rates. U.S. productivity accelerated over this period, while the contraction of its economy led to sharply declining rates of employment to population growth. Even so, U.S. productivity growth, at 1.0%, remained below the non-U.S. weighted average of 1.2%.

Table 8.1 emphasized the importance of worker productivity (GDP per worker) to the U.S. standard of living. **Table 8.2** presents the average annual growth rate of this measure for various periods between 1960 and 1992. (These data use a different source than earlier tables, which accounts for some slight differences.) The growth rates for the United States are relatively low; for the cumulative period the U.S. rate is the second lowest in the table. U.S. productivity was at its highest between 1960 and 1967, when it grew at an annual rate of 2.7%. Since then, it has fallen precipitously, and was even negative between 1973 and 1979.

TABLE 8.2
Productivity Growth Rates, 1960-92

	1960-67	1967-73	1973-79	1979-89	1989-92	Cumulative 1960-92*
Australia	n.a.	2.8%	1.6%	1.0%	1.0%	1.6%
Canada	2.3%	2.6	1.3	1.2	0.3	1.6
France	4.3	4.1	2.4	1.9	1.2	2.9
West Germany	3.9	4.3	2.9	1.1	2.1	2.7
Italy	6.1	5.0	2.7	2.0	0.8	3.5
Japan	7.8	7.7	2.8	2.8	1.6	4.7
Netherlands	n.a.	n.a.	0.0	0.7	0.1	0.3
Sweden	4.0	2.8	0.5	1.2	1.1	2.0
United Kingdom	2.3	3.4	1.2	1.8	0.4	2.0
United States	**2.7**	**0.9**	**-0.1**	**0.8**	**0.7**	**1.1**

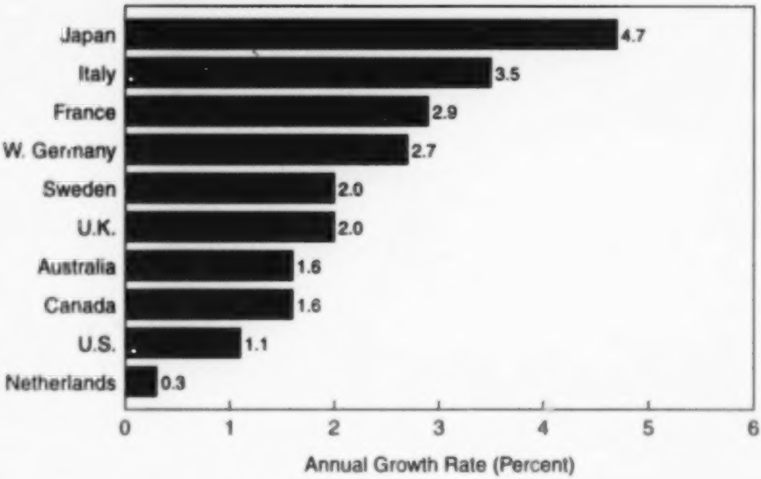
---

* Australia: 1967-92; Netherlands: 1973-92.

Source: Authors' analysis of OECD (1994) data.

The rates of productivity growth for other countries have also slowed over the period, though all but that of the Netherlands remain higher than that of the United States (**Figure 8A**). Japan's productivity fell from an average annual rate of 7.8% between 1960 and 1967 to 1.6% over the most recent period. Similarly, West Germany's rate fell from 4.3% in the 1967-73 period to 2.1% in the most recent. However, even in the context of this general slowdown, the majority of the other countries still had faster productivity growth rates than those of the United States from 1973 to 1992.

FIGURE 8A
Productivity Growth Rates, 1960-92*



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*Australia, 1967-92; Netherlands, 1973-92.

Source: Authors' analysis of BLS and OECD data.

Compensation: U.S. Growth Flat or Negative

Given that wage growth is in part dependent on productivity growth, we would expect to see U.S. wages reflect the relatively stagnant growth of productivity presented above. In fact, **Table 8.3** reveals that compensation growth per employee in the U.S. business sector (excluding public employment) was far below that of the other industrialized countries shown. Real compensation (wages plus fringe benefits) grew at an average annual rate of 0.12% over the 1980s, while compensation elsewhere grew at an average rate of between 1.91% (United Kingdom) and 0.48% (Canada). Compensation grew at a faster rate in most countries during the 1989-92 period, but the U.S. growth rate was only one-third that of the non-U.S. average of 1.55%.

The most extensive data of this sort is for the manufacturing sector, to which we now turn. As with the business sector (of which manufacturing is a component), **Table 8.4** and **Figure 8B** show that the U.S. annual growth rate for hourly manufacturing compensation is well behind that of most comparable nations.

TABLE 8.3
International Compensation Growth per Employee, Business Sector, 1979-92

Country	1979-89	1989-92
Canada	0.48%	0.30%
France	0.93	1.28
Germany*	1.11	2.71
Italy	1.38	1.83
Japan	1.42	1.28
United Kingdom	1.91	1.50
United States	**0.12**	**0.51**
Average**	1.31	1.55

---

* Data from 1992 include all of Germany; prior data is for West Germany only.

**Weighted by employment, excluding the U.S.

Source: Authors' analysis of OECD (1993) data.

TABLE 8.4
Hourly Manufacturing Compensation Growth, 1979-92

	1979-89		1989-92	
	All Employees	Production Workers	All Employees	Production Workers
Canada	0.3	0.2	1.6	1.5
Denmark	0.0	-0.2	1.7	2.0
France	1.9	1.9	0.8	0.7
West Germany	2.3	1.9	3.0	3.1
Italy	1.0	1.5	3.4	0.5
Japan	1.8	1.3	3.2	3.1
Netherlands	0.8	0.5	1.0	1.1
Sweden	0.9	0.9	0.1	0.3
United Kingdom	3.1	1.7	1.7	2.4
United States	**0.2**	**-0.6**	**0.8**	**-0.1**
Average*	1.9	1.5	2.6	2.3

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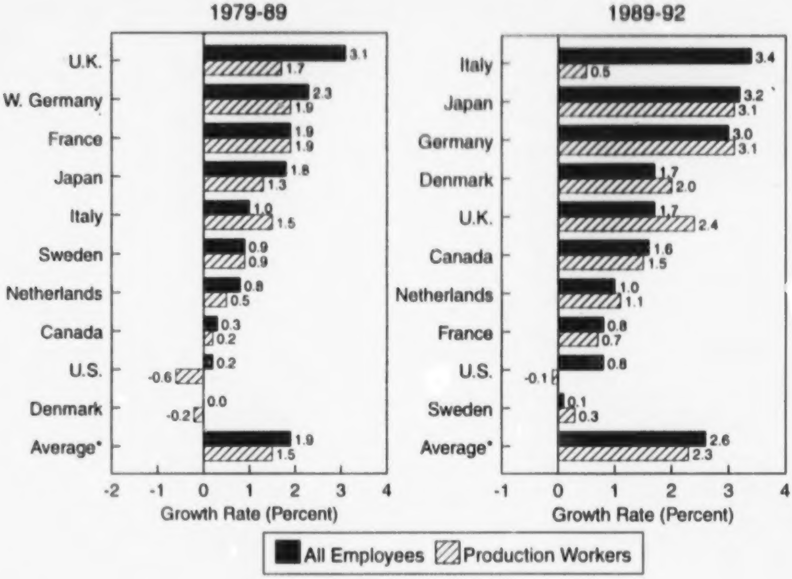
* Weighted by hours, excluding U.S.

Source: Authors' analysis of BLS data.

FIGURE 8B
Hourly Manufacturing Compensation, Real Annual Growth



*Weighted by hours worked by all employees, excluding the U.S.

Source: Authors' analysis of BLS data.

Between 1979 and 1989, real hourly manufacturing compensation in the United States grew at an average annual rate of 0.2%, compared with the non-U.S. weighted average of 1.9%. Only Denmark had a lower rate. Meanwhile, compensation in West Germany grew at an average rate of 2.3% a year, 10 times the U.S. growth rate. Furthermore, what little growth U.S. manufacturing wages experienced benefited only supervisors and managers. Production workers saw their compensation fall at a rate of 0.6% a year. Since nonproduction workers have relatively higher compensation, this pattern contributes to the (within-sector) growth in wage inequality documented in Chapter 3. The United States and Denmark were the only countries whose production workers experienced wage loss during this period.

Between 1989 and 1992, compensation generally grew faster (average growth accelerated by 0.7%); but U.S. manufacturing employees experienced lower-than-average growth, and compensation continued to fall for production workers. Compensation grew for production workers in a number of countries (e.g., United Kingdom, West Germany, Japan, Canada) relative to the earlier period. Danish workers in particular gained back all the ground lost (and more) over the 1980s.

Whereas Table 8.4 examined the growth rates of manufacturing compensation, the next two tables compare the levels of compensation, indexed to the United States. In order to make such comparisons, wages were first converted from their national currency into dollars through the use of two different exchange-rate series: purchasing-power-parity exchange rates (PPPs) and market exchange rates. PPPs are currency values intended to measure the cost of buying the same "basket" of goods and services in all countries. Market exchange rates represent the value of the dollar relative to other currencies in world financial markets. While both exchange-rate measures have their drawbacks, the PPPs are commonly considered an indicator of the relative price of consumption and, therefore, a measure of relative living standards. Market exchange rates reflect the relative value of American goods, services (including labor), and assets in international markets. Thus, they reflect the relative costs to an employer of buying U.S. labor.

When PPPs are used to adjust for currency differences, as in **Table 8.5**, U.S. compensation ranks the highest among all workers in 1992. However, France, West Germany, and the Netherlands had compensation levels that were 92%, 97%, and 96%, respectively, of U.S. levels for all workers. Moreover, on average other countries gained on the United States throughout the 1980s, as seen by the rise in the "All Workers" averages (recall that these averages exclude the United States), from 70% of U.S. compensation in 1979 to 77% in 1992. Given the findings in Table 8.4 regarding the falling compensation of U.S. production workers, it is not surprising that production workers in three countries—Germany, Canada, and the Netherlands—had surpassed the United States in this category by 1992 (**Figure 8C**, panel 1, shows the PPP-adjusted wages). Foreign production workers on average were catching up to U.S. workers at a faster rate than for all workers: the average for the production worker index grew from 74% to 86%.

While U.S. wages are the highest in PPP-adjusted average manufacturing compensation, this measure paints a very incomplete picture of relative wage levels, since the manufacturing share of employment is relatively small

TABLE 8.5
Manufacturing Hourly Compensation Compared, 1979-92
(Using Purchasing-Power Parities)

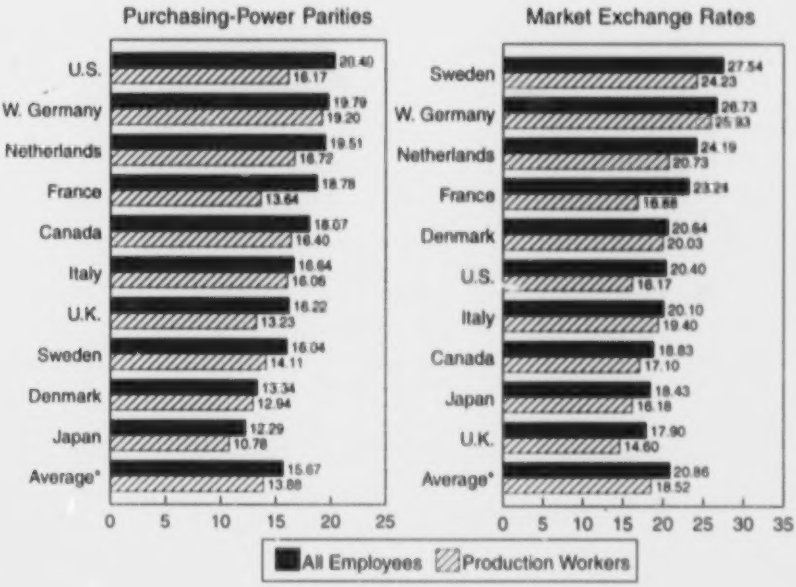
Country	1979	1989	1992
All Workers			
Canada	88	82	89
Denmark	72	62	65
France	94	90	92
West Germany	61	91	97
Italy	141	82	82
Japan	34	53	60
Netherlands	70	94	96
Sweden	112	90	79
United Kingdom	78	82	80
United States	**100**	**100**	**100**
Average*	70	73	77
Production Workers			
Canada	92	92	102
Denmark	80	74	80
France	77	81	84
West Germany	69	108	119
Italy	160	106	99
Japan	36	58	67
Netherlands	69	99	103
Sweden	111	97	87
United Kingdom	82	81	82
United States	**100**	**100**	**100**
Average*	74	81	86

* Weighted by hours, excluding U.S.

Source: Authors' analysis of BLS data.

(about 16% in the United States in 1993) and falling in most OECD countries. The second problem with the average measure is that it fails to capture the large growth in wage dispersion that has developed in most OECD countries (a topic discussed in detail below). **Figure 8D** addresses these shortcomings by showing the PPP-adjusted male wage at the 10th percentile, indexed to the United States, for Japan and Europe (employment-weighted) at the end of the 1980s. The figure shows that, despite U.S. dominance in average manufacturing compensation, low-wage male workers earn

FIGURE 8C
Comparative Manufacturing Hourly Compensation, 1992



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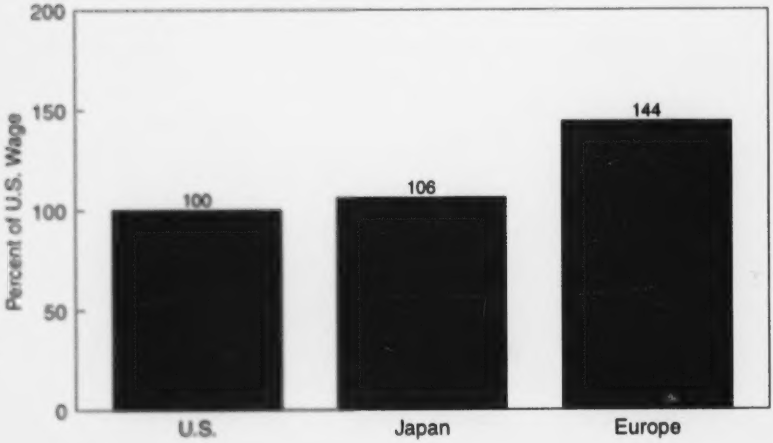
*Weighted by hours worked by all employees, excluding the U.S.

Source: Authors' analysis of BLS data.

less (i.e., have lower purchasing power) than their counterparts in Japan and Europe, where workers at the 10th percentile make 106% and 144% of the U.S. wage.

Looking at manufacturing compensation in terms of market exchange rates (**Table 8.6** and Figure 8C, panel 2), the story changes significantly: American workers no longer lead the pack. Since 1979, workers in many countries (and production workers in *most* countries) have received higher hourly compensation than U.S. workers. The average hourly compensation for nonmanagerial (i.e., production) workers in other countries was 95% that of the United States in 1989. By 1992, such compensation in these other countries was 15% higher than in the United States; production workers in West Germany and Sweden were earning 160% and 150% of the U.S. pro-

FIGURE 8D
Male Wages at the 10th Percentile, Indexed to the United States, Late 1980s



Source: Freeman (1993).

duction workers' earnings, respectively. In fact, production workers in all but the United Kingdom had wage levels above those of the United States. Japan, which paid its production workers 44% of the U.S. level in 1979, reached parity with the United States by 1992.

As market exchange rates reflect the relative attractiveness of U.S. products and labor in international markets, the comparisons in this table further underscore the charge that, among the industrialized countries, the United States is becoming a low-wage country (see Chapter 3).

These wage data make two important points regarding the economic position of the United States in international markets. First, the United States has had to let the market value of the dollar decline in order to offset its competitive decline. This tactic has caused the earnings of U.S. workers to fall relative to workers of other countries. Second, these data suggest that the trade imbalances the United States has with many of these countries cannot be blamed on an overpaid U.S. workforce.

TABLE 8.6
Manufacturing Hourly Compensation Compared, 1979-92
(Using Market Exchange Rates)

Country	1979	1989	1992
All Workers			
Canada	92	92	92
Denmark	115	81	101
France	120	94	114
West Germany	85	102	131
Italy	126	82	99
Japan	42	77	90
Netherlands	98	98	119
Sweden	176	125	135
United Kingdom	77	80	88
United States	**100**	**100**	**100**
Average*	81	86	102
Production Workers			
Canada	97	103	106
Denmark	129	96	124
France	99	85	104
West Germany	97	121	160
Italy	142	106	120
Japan	44	84	100
Netherlands	97	103	128
Sweden	175	134	150
United Kingdom	81	78	90
United States	**100**	**100**	**100**
Average*	84	95	115

---

* Weighted by hours, excluding U.S.

Source: Authors' analysis of BLS data.

Income Inequality and Poverty: Highest in the U.S.

In discussions of America's relative prosperity, much is often made of its high per capita income. **Table 8.7** shows per capita income adjusted by purchasing-power-parity exchange rates, indexed to the United States. Indeed, per capita income in the U.S. remains the highest in the industrialized world, although its lead has been steadily eroding. (The average in other countries has risen from 72% of the U.S. level in 1979 to 80% in 1992.) However, a per capita income comparison contrasts only the "average" person in each coun-

Table 8.7
Per Capita Income Compared to U.S., 1973-92

	Per Capita Incomes Adjusted for Purchasing Power (US=100)			
Country	1973	1979	1989	1992
Australia	71	71	73	73
Canada	78	85	89	85
Denmark	67	73	75	77
France	73	77	78	80
Germany	75	80	81	88
Italy	61	67	72	75
Japan	61	65	77	85
Netherlands	71	73	71	73
Norway	56	67	72	76
Sweden	75	75	78	71
Switzerland	103	93	96	96
United Kingdom	68	68	73	70
United States	**100**	**100**	**100**	**100**
Average*	68	72	77	80

* Weighted by population, excluding U.S.

Source: Authors' analysis of OECD (1994) data.

try. Since the economies in each country generate different degrees of income inequality, this average measure obscures how the typical or median person's income compares across countries.

To make such comparisons, we need to examine evidence of how income is distributed throughout each economy and how that distribution has shifted over time. **Table 8.8** presents a measure of the after-tax, after-transfer (including public cash transfers, such as welfare and unemployment benefits, retirement payments, and, in some countries, family allowances) income distributions of nine industrialized countries. The numbers in the tables represent percentages of the median personal income at the 10th, 90th, and 95th percentile, adjusted for family size. For example, in Australia in 1985, persons in families at the 10th decile had family-size-adjusted income that was 45% of the median Australian income in that year; those at the 90th percentile had incomes 227.3% of the median. The ratio in the last column, the "distance ratio," shows relative distance from the median. For example, a 1.00 in this column would mean that incomes at the 10th and 90th per-

TABLE 8.8
Family Income Distribution: Percent of the Median, Mid-1980s*

	Percentiles			Distance Ratio
Country	10th	90th	95th	90/10
Australia (85)	45.0	191.5	227.3	4.26
Canada (87)	45.8	184.5	218.0	4.03
France (84)	55.4	192.8	233.5	3.48
West Germany (84)	56.9	170.8	201.7	3.00
Italy (86)	48.9	197.9	233.8	4.05
Netherlands (87)	61.5	175.0	206.4	2.85
Sweden (87)	55.6	151.5	170.4	2.72
United Kingdom (86)	51.1	194.1	232.1	3.80
United States (86)	**34.7**	**206.1**	**247.3**	**5.94**

---

* Adjusted for family size. The entries in columns 1-3 are the percent of family income at the decile of the median.

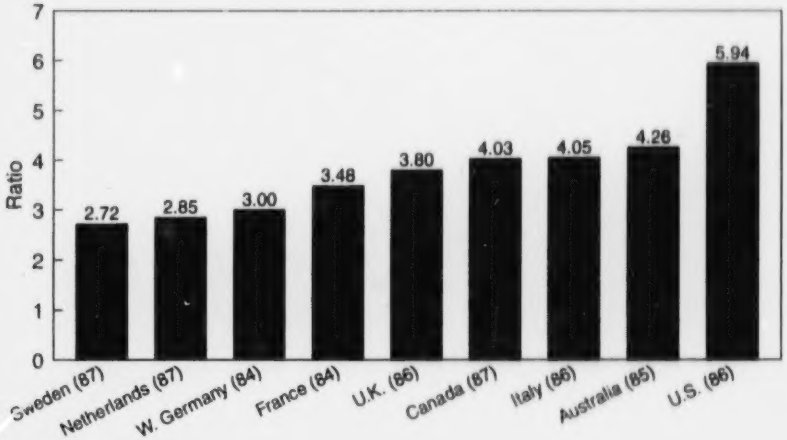
Source: Atkinson, Rainwater, and Smeeding (1994).

centiles were equally distant from the median. Thus, countries with larger values of this summary measure have higher levels of income dispersion.

These data show the United States to be quite apart from the other countries in terms of income distribution. U.S. families at the 10th percentile have incomes only 34.7% of the median; in France, West Germany, the United Kingdom, and the Scandinavian countries, the 10th percentile falls between 51.1% and 61.5% of the median. The United States is also alone at the other end of the income scale. Persons in U.S. families at the 90th and 95th deciles are further above the median than persons in the same relative position in any other country. This income dispersion shows up graphically in the distance ratios in the final column (and in **Figure 8E**).

Table 8.9 extends the above analysis by examining the trends in the income distribution over the 1980s. (Unfortunately, trend data are not available for each country.) The numbers in this table represent the difference between the percents of the median for each decile shown in the years given. Thus, between 1979 and 1986, families at the 10th decile in the United States fell 3.4 percentage points further below the median, while the incomes of those at the 95th percentile grew 25.4 points above the median. Only wealthy families in the United Kingdom saw a similar, though smaller, increase in

FIGURE 8E
Income Dispersion, as Measured by the Ratio of Top/Median Income to Bottom/Median Income



Source: Atkinson, Rainwater, and Smeeding (1994).

TABLE 8.9
Income Distribution: Changes in Percent of the Median Over the 1980s

	Change in Distance From Median			Distance Ratio
Country	10th	90th	95th	90/10
Australia (81-85)	-1.0	5.2	10.9	0.2
Canada (81-87)	0.9	1.8	6.5	0.0
France (79-84)	1.8	6.3	1.2	0.0
Netherlands (83-87)	-3.3	-1.1	-1.7	0.1
Sweden (81-87)	-5.9	0.6	3.4	0.3
United Kingdom (79-86)	0.2	14.4	23.2	0.3
United States (79-86)	**-3.4**	**18.5**	**25.4**	**1.0**

Source: Atkinson, Rainwater, and Smeeding (1994).

their relative position. (Note, however, that poor families in the United Kingdom held their relative position.) The last column shows that, in countries other than the United States, the relative distance from the median was either unchanged or grew slightly over the period.

As in the United States, the most important source of income in the other industrialized countries is earnings from the labor market. Thus, we would expect to see wage distribution patterns that are generating these income distribution patterns. **Figures 8F** and **8G** provide a time series of wage percentile trends for male and female workers in six countries. While these data are not strictly comparable (see the figure note, page 392) they present a reliable picture of the trends in the different countries.

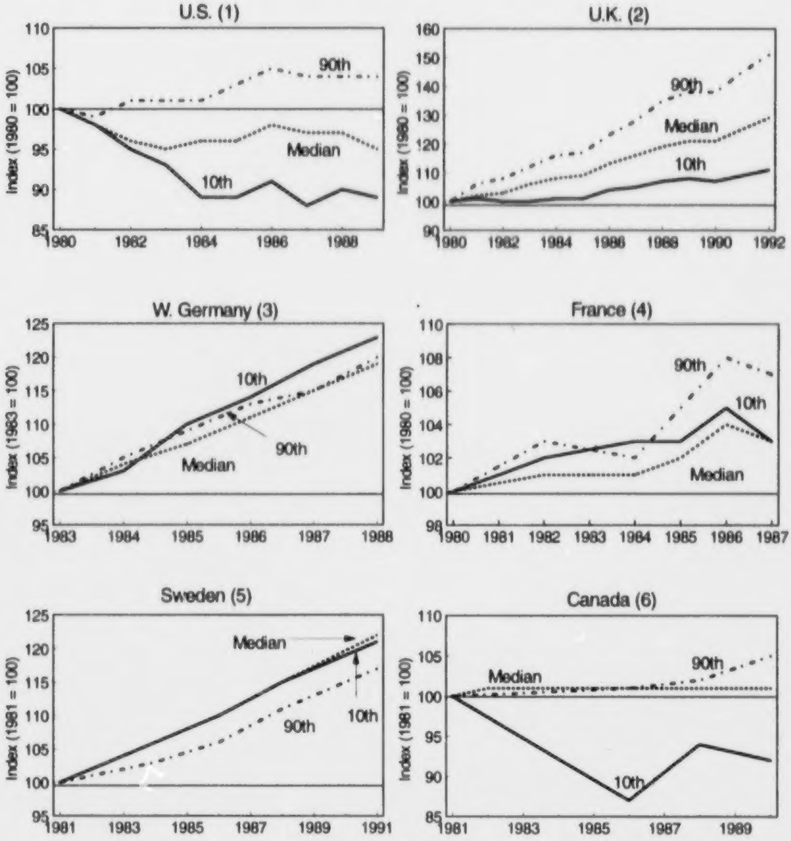
The United States and the United Kingdom show the largest increases in both male and female wage inequality over the 1980s. However, the nature of U.S. wage inequality is singular in that it is generated by falling wages at the median (for males) and at the 10th percentile (for both males and females). In the United Kingdom wages rose, but at rates much more favorable to higher earners. Conversely, the other countries show either less consistent patterns of growth in wage inequality (e.g., Canada, where only low wages plummeted), or a decrease (e.g., France [among females up to 1986], Sweden, and Germany, where the 10th percentile grew faster than the 90th).

As has been documented in Chapter 3, an important dimension in the growth in wage inequality is the growth of educational differentials—for example, the rise in the premium of college-educated over high-school-educated workers. **Table 8.10** puts this phenomenon in an international context by showing the change in comparable educational differentials over the 1980s as given by the ratio of the mean or median college-equivalent to high school-equivalent wage. As suggested by the trends in the prior figure, the United States and the United Kingdom show the largest increase, by 0.09 and 0.07 points, respectively. Growth of differentials in other countries was either slight (Sweden, Canada) or negative (Netherlands, West Germany).

Another important measure of income inequality is the extent of poverty. Chapter 6 presented an analysis of the problem of poverty in the United States. In this section, we introduce an international perspective and examine both the extent of poverty in other countries and the response. We find that American poverty rates are the highest, and that its system of social protection is the weakest.

The next three tables examine poverty rates in the late-1970s and the mid-1980s, the years of available data. The poverty lines used are 40% of median

FIGURE 8F
Wage Percentiles for Men, in Selected Industrialized Countries, 1980s



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1 Gross hourly earnings of wage and salary workers.

2,5 Gross hourly earnings.

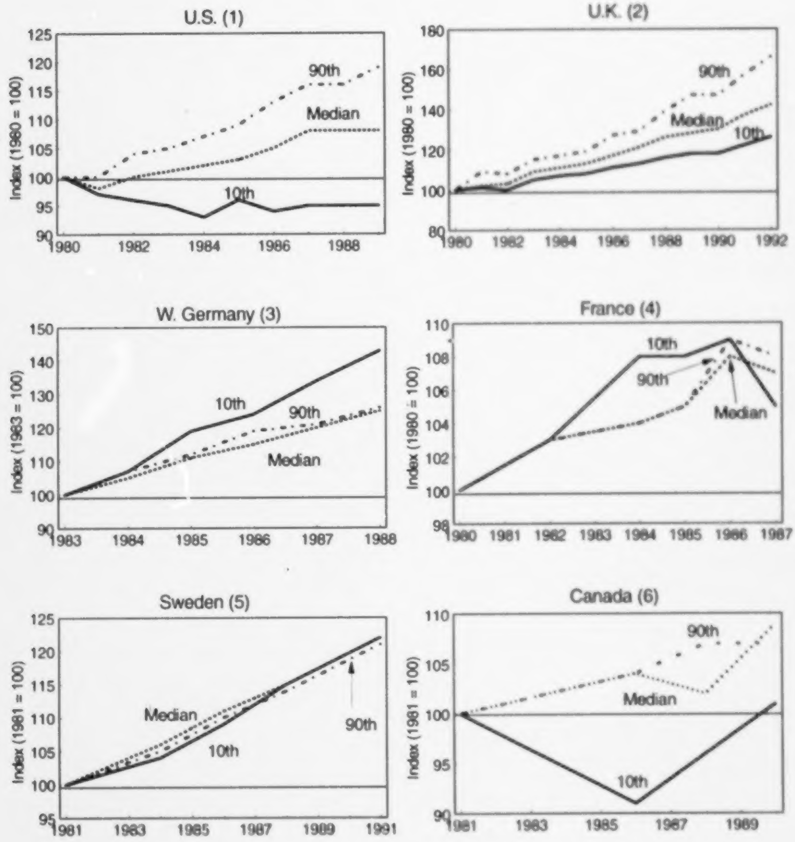
3 Gross monthly earnings plus benefits.

4 Gross annual earnings of full-time workers.

6 Gross annual earnings of full-time, year-round workers.

Source: OECD (1993).

FIGURE 8G
Wage Percentiles for Women, in Selected Industrialized Countries, 1980s



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1 Gross hourly earnings of wage and salary workers.
2,5 Gross hourly earnings.
3 Gross monthly earnings plus benefits.
4 Gross annual earnings of full-time workers.
6 Gross annual earnings of full-time, year-round workers.

Source: OECD (1993).

TABLE 8.10
International Educational Differentials for Males Over the 1980s

Country	1979 or Early 80s	Mid- to Late 1980s	Average 5-Year Change
	Ratios of Mean or Median College-Equivalent Wage to High School-Equivalent Wage		
Canada	1.40	1.42	0.02
West Germany	2.00	1.94	-0.06
Japan	1.26	1.26	0.00
Netherlands	1.50	1.22	-0.35
Sweden	1.16	1.19	0.03
United Kingdom	1.53	1.65	0.07
United States	**1.37**	**1.51**	**0.09**

Note: With the exception of the Netherlands and Germany, all figures control for changes in the age composition of educational groups.

Sources: OECD (1994); Abraham and Houseman (1994).

income in each country, a relative definition of poverty (Chapter 6 discusses this approach) that produces a poverty threshold close to the official U.S. poverty lines of the mid-1980s. Since levels of income and wealth vary significantly between countries, a relative threshold is essential to international comparisons. Like the official U.S. definition, these rates take cash transfers into account and are adjusted for family size but, unlike the U.S. definition, also account for taxes and the value of food stamps.

Table 8.11 shows the poverty rates from eight industrialized countries, for all persons, all adults (age 18-64), and children (17 and under). The U.S. rates are by far the highest for each category. In the broadest category, 13.3% of all Americans were poor in 1986, nearly twice the percentage as in the next highest country (Canada), and 2.3 times the average level of 5.9%. As noted in Chapter 6, American child poverty is particularly high. At 20.4%, the U.S. child poverty rate is slightly under three times the average rate of 7.4%.

Table 8.12 examines the impact of the tax and transfer systems of the various countries, for the same categories as in the previous table. The "Pre" columns give the poverty rates generated by the market, prior to the introduction of taxes and transfers. Thus, these percentages represent the degree of poverty that would exist with no government intervention.

TABLE 8.11
International Poverty Statistics

	Poverty Rates in the Mid-1980s*		
Country	All Persons	All Adults (18-64)	All Children (17 or under)
Australia	6.7%	6.2%	9.0%
Canada	7.0	7.0	9.3
France	4.5	5.2	4.6
West Germany	2.8	2.6	2.8
Netherlands	3.4	3.9	3.8
Sweden	4.3	6.6	1.6
United Kingdom	5.2	5.3	7.4
United States	**13.3**	**10.5**	**20.4**
Average	5.9%	5.9%	7.4%
Ratio of U.S. to Average	2.3	1.8	2.8

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* The poverty thresholds used are 40% of the median income, adjusted for family size.

Source: Smeeding (1992).

TABLE 8.12
The Impact of Taxes and Transfers on International Poverty Rates, Mid-1980s

	All Persons			Adults (18-64)			Children (17 or under)		
Country	Pre*	Post*	Point Change	Pre*	Post*	Point Change	Pre*	Post*	Point Change
Australia	19.1%	6.7%	-12.4	12.9%	6.1%	-6.8	16.4%	9.0%	-7.4
Canada	17.1	7.0	-10.1	11.5	7.0	-4.5	15.7	9.3	-6.4
France	26.4	4.5	-21.9	17.6	5.2	-12.4	21.1	4.6	-16.5
West Germany	21.6	2.8	-18.8	9.8	2.6	-7.2	8.4	2.8	-5.6
Netherlands	21.5	3.4	-18.1	17.4	3.9	-13.5	14.1	3.8	-10.3
Sweden	25.9	4.3	-21.6	13.4	6.6	-6.8	7.9	1.6	-6.3
United Kingdom	27.7	5.2	-22.5	18.1	5.3	-12.8	27.9	7.4	-20.5
United States	**19.9**	**13.3**	**-6.6**	**12.8**	**10.5**	**-2.3**	**22.3**	**20.4**	**-1.9**
Average	22.4%	5.9%	-16.5	14.2%	5.9%	-8.3	16.7%	7.4%	-9.3

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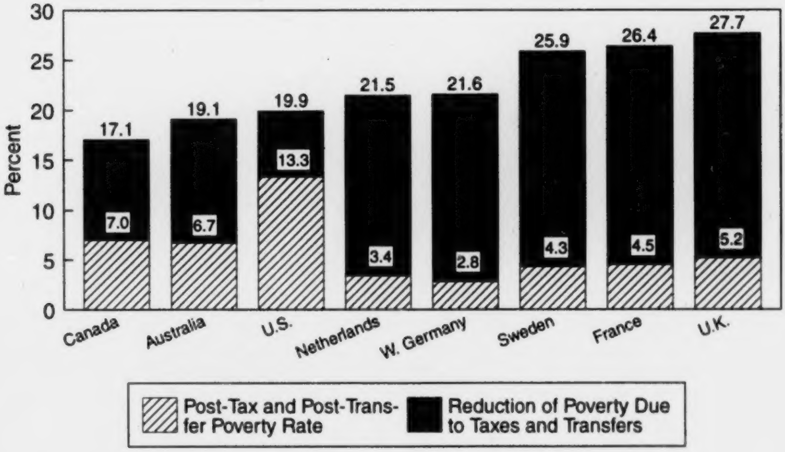
* "Pre" refers to pre-tax, pre-transfer income; "post" refers to post-tax, post-transfer income.

Source: Smeeding (1992).

The extent of market-generated poverty in these eight industrialized countries is quite alarming (**Figure 8H**). On average, over one-fifth of all persons were poor prior to government intervention. In France, the United Kingdom, and Sweden, that proportion rises to over one-fourth. To some degree, these high overall rates are driven by exceptionally high poverty rates of elderly persons (not shown), but the rates for adults and particularly children are also disturbingly high. By this measure, the U.S. rates are relatively low (with the notable exception of child poverty). The U.S. pre-tax and pre-transfer poverty rate for all persons, 19.9%, is higher only than Canada and Australia, and below the average rate of 22.4%.

However, the post-tax, post-transfer column tells quite a different story. Here, the U.S. rates are the *highest in all cases*. Thus, while market outcomes in this country, which leave one-fifth of all persons impoverished, generate relatively less poverty than most other countries, the U.S. system of taxes and transfers is much less effective in reducing poverty than that of any other country.

FIGURE 8H
Impact of Taxes and Transfers on Poverty Rates, Mid-1980s



Source: Smeeding (1992).

The effect of taxes and transfers is shown in the point-change columns of Table 8.12 and in the lighter area in the bars of Figure 8H. For example, in the United Kingdom, the market economy of the mid-1980s left 27.7% of all persons poor. However, after taxes and benefits, the U.K. poverty rate fell to 5.2%, a drop of 22.5 percentage points. By this measure of poverty reduction, the United States is an extreme laggard. For all persons, the U.S. redistribution system lowered poverty by only 6.6 points, well below the average reduction of 16.5 points. For adults, poverty was reduced by a lesser amount, 2.3 points. (Note, however, that all countries show less poverty reduction for adults.) For U.S. children, poverty barely fell at all (1.9 points), a result in stark contrast to the child-poverty reduction of the other countries.

Table 8.13, which looks at changes between two periods (see the table for a description of the time periods), compares the United States to the average of the other countries in the study. (The United Kingdom is omitted due to lack of data for the earlier year.) The table shows that poverty worsened over the 1980s in all countries for each category, both in pre- and post-transfer terms. However, comparing the United States and the average of the other countries shows that, not only is poverty reduction less effective in the United States, as shown in the previous table, it has become even *less* effective over time. In contrast, poverty reduction in other countries has grown more effective. An encompassing measure of this trend is shown as the percentage of poverty reduced. If we consider pre-tax and pre-transfer poverty to be the total amount of poverty that the redistributive system can effect, then the percentage of poverty reduced is the ratio of the point change to the poverty induced by the market, expressed as a percent. The table shows a smaller *percentage* reduction of pre-tax and pre-transfer poverty in the United States than in other countries. In addition, this percentage fell over time in the United States while holding constant elsewhere. For all Americans in 1979, 41.6% of the pre-transfer poor were lifted out of poverty by taxes and transfers; in 1986, this percentage fell to 33.2%. In the other nations, the percentage of poverty reduced was both much higher than in the United States and essentially the same in both periods. For example, in the average foreign nation, child poverty was reduced 52.6% in Period 1 and 51.0% in Period 2. In the United States, child poverty was reduced by 22.6% in 1979 and an even smaller 8.5% in 1986.

TABLE 8.13
Tax and Transfer System Effectiveness, Early to Mid-1980s

	United States			Average of Other Nations*		
	1979	1986	Point Change	Period 1	Period 2	Point Change
All Persons						
Pre**	18.5%	19.9%	1.4	20.6%	21.6%	1.0
Post**	10.8	13.3	2.5	5.7	6.0	0.3
Point Change	-7.7	-6.6	1.1	-14.9	-15.6	-0.7
Percentage of Poverty Reduced	41.6%	33.2%		72.3%	72.2%	
Adults (18-64)						
Pre**	11.2%	12.8%	1.6	12.6%	13.6%	1.0
Post**	8.3	10.5	2.2	5.6	6.0	0.4
Point Change	-2.9	-2.3	0.6	-7.0	-7.6	-0.6
Percentage of Poverty Reduced	25.9%	18.0%		55.6%	55.9%	
Children (17 or Under)						
Pre**	19.0%	22.3%	3.3	13.7%	15.1%	1.4
Post**	14.7	20.4	5.7	6.5	7.4	0.9
Point Change	-4.3	-1.9	2.4	-7.2	-7.7	-0.5
Percentage of Poverty Reduced	22.6%	8.5%		52.6%	51.0%	

---

* Average of Canada, Australia, Sweden, Germany, Netherlands, and France. Period 1 is either 1979 or 1981, except for Netherlands (1983). Period 2 is either 1986 or 1987, except for France and Germany (1984).

** "Pre" refers to pre-tax, pre-transfer income; "post" refers to post-tax, post-transfer income.

Source: Smeeding (1992).

Comparing Economic Mobility Between Countries

In Chapter 6, we noted that poverty is a dynamic, rather than a static, phenomenon. Research on the length of time spent poor has found a great deal of transition into and out of poverty. **Table 8.14** and **Figure 8I**, which present the results of an international study of the economic mobility of poor families with children in the mid-1980s, enable a comparison of U.S. economic mobility to that of other countries. (As above, we apply a relative definition of poverty; however, in this analysis, the poverty lines are set at 50% of median income—the previous tables used 40%. Again, income is post-tax and post-transfer, with adjustments for family size.)

The first column of Table 8.14 gives the poverty rates for families with children in the countries in this study. Once again, the U.S. rates are the highest; this is particularly the case for black families, whose poverty rate was 49.3%. However, it is the second and third columns in which we are most interested; in column 2 we find the percent of poor families in year 1 who escaped poverty by year 2, and in column 3 we find the percent of families who were poor for three consecutive years.

The horizontal axis of Figure 8I is the percent of families who were poor in year 1 of the study (column 1, Table 8.14). The vertical axis is the percentage of poor families who escaped poverty by year 2. Thus, as the data points in the figure move out to the lower right (higher poverty in year 1, a

TABLE 8.14
Poverty Rates and Transitions Out of Poverty for Families With Children, Mid-1980s

Country	Poverty Rate*	Transition Rate**	Percent of Families Poor in All 3 Years of a 3-year Period
Canada	17.0%	12.0%	11.9%
France-Lorraine	4.0	27.5	1.6
West Germany			
All	7.8	25.6	1.5
German	6.7	26.9	1.4
Immigrants	18.0	20.0	4.0
Ireland	11.0	25.2	n.a.
Luxembourg	4.4	26.0***	0.4
Netherlands	2.7	44.4	0.4
Sweden	2.7	36.8	n.a
United States			
All	20.3	13.8	14.4
White	15.3	17.0	9.5
Black	49.3	7.7	41.5

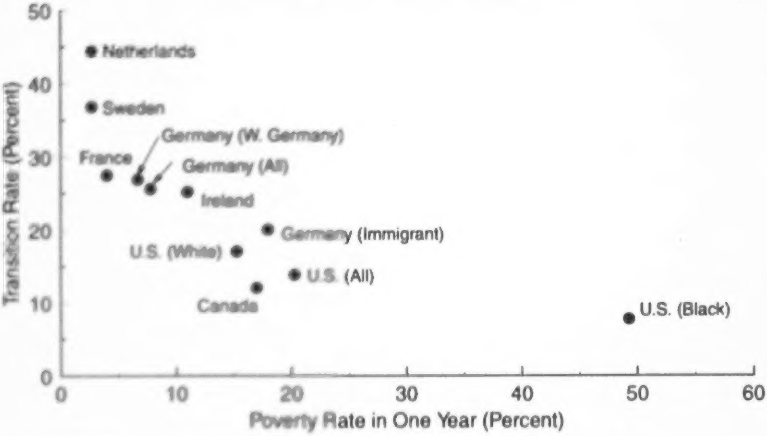
* Percent of families with income below 50% of that country's median income in year 1.

** Percent of families who were poor in year 1 who had more than 60% of median income in year 2.

*** Based on 10-30 cases.

Source: Duncan et al. (1991).

FIGURE 8I
Poverty Rates and Transitions Out of Poverty, Families With Children, Mid-1980s



Source: Duncan et al. (1992).

lower probability of escape by year 2), the economic situation worsens.

Most of the countries in Figure 8I show relatively low poverty rates and relatively high "escape" rates. France, for example, has a family poverty rate of 4% in year 1, and 27.5% of the poor in that year had escaped poverty by the next year (Table 8.14). However, the U.S. position in the figure reveals high poverty and low mobility. The U.S. overall poverty rate (20.3%) is the highest among all countries in the table, and the escape rate of 13.8% is the second lowest. The situation for U.S. blacks is particularly severe. As noted above, the poverty rate for black families is 49.3%, the highest in the table. Blacks also have the lowest probability of escaping poverty; only 9.5% of the poor in year 1 were non-poor in year 2. Only the Canadian poor are less likely than the U.S. poor to leave poverty. In fact, even foreigners within Germany, who have higher poverty rates than U.S. whites, have higher escape rates than the U.S. poor.

Column 3 of Table 8.14 shows further evidence of low economic mobility in the United States compared to the other countries in the table. The probability of a poor family with children remaining poor for the full length of the three-year period of the study was highest in the United States, at 14.4%. While the rate for Canada was slightly lower (11.9%), the other countries in the study had much lower persistent poverty rates than the United States. Black families were most likely to experience persistent poverty; 41.5% were poor for the full period.

Job Growth and the Public Commitment to Job Training and Unemployment Compensation

We have already shown (Chapter 4) that most of the net job growth over the 1980s was in low-paying service industries. Since we do not have comparable data on job growth by sector, we are unable to make international comparisons of the quality of the jobs created. In terms of aggregate job growth from an international perspective, we find U.S. job growth to be relatively strong, but not in orders of magnitude above its competitors. Furthermore, the public commitment in the United States to important labor market institutions lags behind that of its competitors.

Table 8.15 shows that, from 1979 to 1989, thousands more jobs were created in the United States than in other countries (column 1). This is to be expected, however, since the United States is by far the largest country. A better indicator is the *rate* of job creation relative to employment, and by this

TABLE 8.15
Jobs Created in 10 Countries, 1979-92

Country	Total Created 1979-89 (000)	New Jobs as Percent 1979 Employment	Total Created 1989-92 (000)	New Jobs as Percent 1989 Employment
Australia	1,617	26.5	-34	-0.4
Canada	2,091	20.1	-246	-2.0
France	550	2.6	180	0.8
West Germany	1,730	6.8	1,450	5.3
Italy	840	4.2	400	1.9
Japan	6,460	12.0	3,120	5.2
Netherlands	730	13.7	400	6.6
Sweden	364	8.7	-218	-4.8
United Kingdom	1,410	5.7	-890	-3.4
United States	**18,518**	**18.7**	**256**	**0.2**

Source: Authors' analysis of BLS data.

measure the United States ranks third out of 10. Column 2 of Table 8.15 shows that U.S. employment in 1989 was 18.7% greater than in 1979, compared to increases of 26.5% in Australia and 20.1% in Canada over the same period.

Between 1989 and 1992, job growth was tempered by the 1990-91 recession in this country and similar downturns in some of the other industrialized nations. (Note the net decrease in jobs in four countries.) Among the countries with positive growth, U.S. employment grew the least relative to its 1989 level.

Another reason that simple job counts are misleading is that they do not take into account population growth, a factor that limits both the number of jobs created and the rate of job growth. Some countries (e.g., West Germany) have had very little population growth, while most others have grown at a much slower rate than the United States. Without population growth the only manner in which additional job growth can be achieved is by raising the percentage of the population with employment, which is always a slow process. On the other hand, countries with fast-growing populations have the possibility of creating substantial growth in employment.

To address this issue, **Table 8.16** breaks down the growth in employment into growth of population, on the one hand, and of the employment/population ratio on the other. Between 1979 and 1989, the U.S. annual employment growth rate (1.7%) turns out to be due more to population growth (1.0%) than to a rising employment/population ratio (0.7%). By this more appropriate standard—the employment/population ratio—the United States has still done well in creating employment, but not in orders of magnitude better than the others. And, as shown above, this has been accomplished at the expense of wage growth.

Between 1989 and 1992, job growth decelerated in the United States and in some other countries (notably the United Kingdom, Canada, and Sweden) due to cyclical factors. The job growth that did occur here came exclusively from population growth, and the share of the population employed actually shrank over this period.

Workers in the United States have also been putting in more hours than workers in most other countries, in part to compensate for falling wages. **Table 8.17** shows the hours worked per employee in manufacturing (the only data of this type available), once again indexed to the United States. While two countries had average hours of work in 1970 that exceeded U.S. hours, by 1989 only Japan had more hours of work per average manufacturing employee. The falling weighted average (weighted by each country's

TABLE 8.16
Contributions to Employment Growth in 10 Countries, 1979-92

Country	Employment Growth Rate	Breakdown of Employment Growth into Sum of: Population Growth Rate	Employment/ Population Ratio Growth Rate
1979-89			
Australia	2.3%	1.5%	0.9%
Canada	1.8	1.0	0.8
France	0.3	0.5	-0.3
West Germany	0.7	0.1	0.5
Italy	0.4	0.2	0.2
Japan	1.1	0.6	0.5
Netherlands	1.3	0.6	0.7
Sweden	0.8	0.2	0.6
United Kingdom	0.5	0.2	0.4
United States	**1.7**	**1.0**	**0.7**
Average*	0.9	0.5	0.4
1989-92			
Australia	-0.1%	1.4%	-1.6%
Canada	-0.7	1.5	-2.2
France	0.3	0.6	-0.3
West Germany	1.7	1.5	0.3
Italy	0.6	0.2	0.4
Japan	1.7	0.3	1.3
Netherlands	2.1	0.7	1.4
Sweden	-1.6	0.7	-2.4
United Kingdom	-1.1	0.4	-1.5
United States	**0.1**	**0.8**	**-0.8**
Average*	0.7	0.7	0.1

* Weighted by population, excluding U.S.

Source: Authors' analysis of BLS and OECD (1994) data.

hours per employee, exclusive of the United States), from 1 percentage point above the U.S. level to 11 percentage points below, shows the increase in U.S. manufacturing labor supply relative to other countries.

In addition, American workers had less generous vacation benefits than did European workers (**Table 8.18**). The majority of European workers re-

TABLE 8.17
Hours Worked per Employee in Manufacturing, Compared to the United States, 1970-89

Country	1970	1979	1989	1992
Canada	100	98	95	95
Denmark	96	86	82	82
France	98	90	83	83
West Germany	99	91	82	80
Italy	100	92	95	92
Japan	119	114	111	104
Netherlands	98	88	83	83
Sweden	91	80	76	79
United Kingdom	105	101	96	94
United States	**100**	**100**	**100**	**100**
Average*	101	94	90	89

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* Weighted by hours, excluding U.S.

Source: Authors' analysis of BLS data.

ceive four or five weeks of paid vacation, mandated by law; American workers typically get slightly over two weeks. (Yet American workers' lesser vacation time only partially explains the extra hours of work.)

Another way in which European countries are more generous to their workers is in the provision of publicly provided job training, job creation, and subsidies. Such programs are vital in an economy experiencing a shift from manufacturing to services and a reduction in the size of the armed forces. However, as shown in **Table 8.19**, no country devoted *less* of its national resources to these programs than did the United States. In 1991-92, the U.S. government spent only 0.08% of GDP on job training and much less (0.01%) on subsidies. Only Japan had a similarly low level, and its low expenditures are likely a result of relatively low labor-market displacement rates.

As Chapter 4 points out, unemployment rates provide only a broad measure of labor-force supply and demand; they fail to capture the underemployed and discouraged workers. A general sense of the performance of the U.S. labor market from an international perspective is given in **Table 8.20**. In 1979, U.S. unemployment, at 5.8%, was above the average of 4.9% for the major industrialized countries. By 1989, unemployment had fallen in the United States to 5.2%; among the seven major countries, only Japan's rate was

TABLE 8.18
Paid Vacation in European Countries

Country	Weeks Mandated by Law
Austria	5
Belgium	4
Finland	5
France	5
Greece	4
West Germany	3
Iceland	5*
Ireland	3
Luxembourg	5
Malta	4
Netherlands	4
Norway	4*
Portugal	30 Days
Spain	30 Days
Sweden	5
Switzerland	4
United States**	**16.1 Days**

* Iceland has 4 weeks, 4 days; Norway, 4 weeks, 1 day.
** Estimated average, not mandated.

Source: Leete-Guy and Schor (1992).

lower. Among the smaller countries, the Scandinavian countries had less unemployment than the United States. By 1993, the negative business cycle increased unemployment in most countries, particularly in Scandinavia, where Swedish and Finnish unemployment grew to historic highs.

As is the case with training and subsidies, most other countries are also more generous than the United States in the provision of unemployment compensation. **Table 8.21** shows that the United States spent only 0.58% of GDP on compensating those who are out of work; only Japan spent less. However, this figure does not take the level of unemployment into account. That is, a country might devote very few resources to unemployment compensation because of low unemployment. Therefore, column 2 gives the unemployment rates for the various countries (measured for the relevant time period), and column 3 provides the ratio of compensation to unemployment, a measure

TABLE 8.19
Public Spending on Training and Placement, Direct Job Creation, and Subsidies, as Percent of GDP

Country	Training and Placement	Direct Job Creation and Subsidies	Total
Canada (92-93)	0.42	0.02	0.44
Australia (91-92)	0.10	0.07	0.17
France (91)	0.35	0.11	0.46
Germany* (92)	0.59	0.52	1.11
Italy (91)	n.a.	n.a.	n.a.
Japan (90-91)	0.03	0.07	0.10
Netherlands (92)	0.19	0.11	0.30
Sweden (92-93)	0.99	0.46	1.45
United Kingdom (92-93)	0.18	0.02	0.20
United States (91-92)	**0.08**	**0.01**	**0.09**

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* Includes both West and formerly East Germany.

Source: OECD (1993).

TABLE 8.20
Unemployment Rates in OECD Countries, 1973-93

Country	1973	1979	1989	1993
Canada	5.5	7.4	7.5	11.1
France	2.7	5.9	9.4	11.6
West Germany	0.8	3.2	5.5	5.8
Italy	6.2	7.6	10.9	10.2
Japan	1.3	2.1	2.3	2.5
United Kingdom	3.0	5.0	7.2	10.3
United States	**4.8**	**5.8**	**5.2**	**6.7**
Major Seven Countries	3.4	4.9	5.7	6.9
Smaller Countries				
Australia	2.3	6.2	6.1	10.8
Belgium	2.7	8.2	8.0	9.1
Finland	2.3	5.9	3.4	17.7
Netherlands	2.2	5.4	8.3	8.3
Norway	1.5	2.0	4.9	6.0
Spain	2.5	8.5	16.9	22.4
Sweden	2.5	2.1	1.4	8.2
Total OECD	3.3	5.1	6.2	7.8

Source: OECD (1994).

TABLE 8.21
Unemployment and Unemployment Compensation

Country	Percent of GDP Spent on Unemployment Compensation	Unemployment Rate	Percent of GDP per Percent of Unemployment
Australia (91-92)	1.75%	10.1%	0.17%
Canada (90-91)	1.92	9.2	0.21
France (91)	1.46	9.4	0.16
Germany* (all, 92)	1.32	4.8	0.28
Italy (91)	0.6	9.9	0.06
Japan (90-91)	0.32	2.1	0.15
Netherlands (90)	2.17	7.5	0.29
Sweden (90-91)	0.8	2.1	0.38
United Kingdom (90-91)	0.95	7.3	0.13
United States (91-92)	**0.58**	**7.0**	**0.08**

* Includes both West and formerly East Germany.

Source: OECD (1993).

of relative generosity given the country's unemployment rate. The United States spent 0.08% of GDP per 1% of unemployment in 1991-92, the second-lowest expenditure rate among the countries in the table. The United Kingdom and the Netherlands had similar unemployment rates as the United States, yet their expenditures on unemployment compensation per percent of unemployment were 0.05% and 0.21% of GDP higher than ours.

Conclusion

Compared to other industrialized countries, the United States is falling behind on many important economic indicators. Its comparatively sluggish productivity growth and declining competitiveness are limiting wage growth at a time when most other countries experience rising wages. (For an explanation of additional factors causing wage decline, see Chapter 3.) This development, in tandem with the diminished effectiveness of the U.S. tax and transfer system, has left the United States with both the highest (and most persistent) poverty rates and most unequal income distribution among the industrialized countries examined in this chapter. Furthermore, these trends have begun to seriously undermine the U.S. standard of living, once considered the highest in the world.

APPENDIX: WAGE ANALYSIS COMPUTATIONS

This appendix provides background information on our analysis of wage data from the Current Population Survey (CPS), which is prepared by the Bureau of the Census for the Bureau of Labor Statistics. Specifically, for 1979 and beyond, we analyze computer tapes provided by BLS that contain a full year's data on the outgoing rotation groups (ORG) in the CPS. (For years prior to 1979, we use the CPS May files; our use of these files is discussed below.) We believe that the CPS ORG files allow for a more timely, up-to-date, and more accurate analysis of wage trends than the traditionally used March CPS files (which, for 1993, will not be available until the end of 1994) while still keeping within the familiar labor-force definitions and concepts employed by the CPS.

The ORG files provide data on those CPS respondents in either the fourth or eighth month of the CPS (i.e., in groups four or eight, out of a total of eight groups). Therefore, in any given month the ORG file represents a quarter of the CPS sample. For a given year, the ORG file is equivalent to three months of CPS's (1/4th of 12). For our analysis, we use the full-year ORG samples, whose sizes ranged from 160,791 in 1979 to 166,793 in 1991.

Changes in annual or weekly earnings can result from changes in hourly earnings or from more working time (either more hours per week or weeks per year). Our analysis is centered around the hourly wage, which represents the pure price of labor (exclusive of benefits), because we are interested in changing pay levels for the workforce and its subgroups. We do this to be able to clearly distinguish changes in earnings resulting from more (or less) work rather than more (or less) pay. Our analysis, therefore, does not take into account that weekly or annual earnings may have changed because of longer working hours or lesser or greater opportunities for employment. An exception to this is Table 3.1, where we present annual hours, earnings, and hourly weighted wages from the March CPS.

In our view, the ORG files provide a better source of data for wage analysis than the traditionally used March CPS files. In order to calculate hourly wages from the March CPS, analysts must make calculations using at least two of three retrospective variables: the annual earnings, weeks worked, and usual weekly hours worked in the year prior to the survey. Limiting the March sample to full-time, full-year workers is increasingly unsatisfactory since they represent only two-thirds of wage earners and because there can be a significant variation of hours worked in this group over time and year by year. In contrast, respondents in the ORG are asked a set of questions about hours worked, weekly wages, and (for workers paid by the hour) hourly wages in the week prior to the survey. In this regard, the data from the ORG are likely to be more reliable than data from the March CPS. The ORG files are also more current and have a much larger sample size.

Our subsample includes all wage and salary workers with valid wage and hour data, whether paid weekly or by the hour. Specifically, in order to be included in our subsample, respondents had to meet the following criteria:

- Age 18-64;
- Employed in the public or private sector (self-employed were excluded);
- Hours worked within the valid range in the survey (0-99 per week); and
- Either hourly or weekly wages within the valid survey range (top-coding problems discussed below).

For those who met these criteria, an hourly wage was calculated in the following manner. If a valid hourly wage was reported, that wage was used throughout our analysis. For salaried workers (those who report only a weekly wage), the hourly wage was their weekly wage divided by their hours worked. Outliers, i.e., persons with hourly wages below 50 cents or above $100, were removed from the analysis. CPS weights were applied to make the sample nationally representative.

For tables that show wage percentiles, we "smooth" hourly wages to compensate for "wage clumps" in the wage distributions. This procedure, common to BLS wage quantile presentations, is explained in detail in Mishel and Bernstein (1993, 23).

For the survey years 1979-88, the weekly wage is top-coded at $999.00. Particularly for the later years, this truncation of the wage distribution creates a downward bias in the mean wage. This is especially problematic for comparisons between 1987 and 1988 to later years, when the top-code was raised to $1,923.00. Fortunately, the 1986-88 ORG files have an unedited field that allowed us to impose the new higher top-code present in the ORG files for 1989 and beyond. This unedited field includes reported weekly wages up to the new top-code of $1,923. There are no imputations in that data field.

If a weekly wage from the edited field (with the lower top-code) was top-coded, and a valid wage existed in the unedited field, we used the wage with the higher top-code. At the top of the wage distribution, this procedure yielded substantially higher mean hourly wages. For example, in 1988, for male managers and executives the mean hourly wage increased by $1.07 (1993 dollars), or 5.5%, when the field with the higher top-code was used. Top-coding does not affect the 1979-89 trends but may affect the 1989-93 trends slightly.

As noted above, we extend our analysis back to 1973 by using the May CPS files, which typically have sample sizes of about 35,000 meeting our criteria. Given these relatively small samples, we pool the 1973 and 1974 May CPS for our wage analysis of education and experience by race. The 1974 data were deflated to 1973 dollars using the Personal Consumption Expenditure deflator (1972 base year).

Demographic variables are also used in the analysis. Education up to 1992 refers to years of school completed. Our race variable comprises four mutually exclusive categories:

- White, non-Hispanic;
- Black, non-Hispanic;
- Hispanic, any race;
- All others.

Beginning in 1992, the CPS employed a new coding scheme for education, which is essentially the respondent's highest degree achieved. In order to create a consistent time series on wages, we developed a methodology to impute years of education completed given the categories on the 1992-93 files. Our imputation was facilitated by the 1990 February CPS, which contains both the old and new education coding. In order to impute years of education completed for 1992 and 1993, we regressed years of education on education categories (the new coding) plus a set of controls including age (and age-education interactions), region, urban status, five occupations, and the hourly wage. (Separate models were run for males and females.)

We then calculated average wages for imputed education categories (using predicted years completed) and those for actual years completed. Comparing the outcomes (i.e., taking the ratio of the wages from the imputed and actual education categories) from these tabulations allowed us to compute "adjustment factors" that we use in 1992 and 1993 to adjust wages for differences not picked up in our regression models.

We employ these imputations in various tables in Chapter 3 where we present wage trends by education over time. While we are confident our imputations do a good job of representing the trend in wages by education level, we are less confident regarding predictions of educational attainment. Therefore, we do not use imputed years of education to estimate the shares of workers in different education categories to bridge the coding change.

Education Wage Differentials

In Chapter 3, we show that education wage differentials have been flat in the 1990s, particularly between 1990 and 1993. The data presented in Chapter 3, however, are "raw" differentials unadjusted for other shifts in the labor force and market. Here we show our finding that education differentials were flat in the early 1990s to be apparent in a regression context using three different specifications and two different data sets: the ORG files and the March CPS. **Tables A1** and **A2** show the estimated college-high school relative wage differentials from a series of wage regressions where log hourly wages were regressed on educational dummies and, in model 1, experience as a quartic, four regional dummies, marital status, and race controls; in model 2, an additional 12 industry controls; and, in model 3, an additional nine occupation controls. Men and women are modeled separately; the college-high school differentials are calculated for 1979 and 1989-93 for the ORG files and only up to 1992 for the March files because of data availability. Annual percentage-point changes in the differentials are presented in each panel.

Results for 1992 and 1993 (ORG only) use imputed years of education as discussed above. However, in order to evaluate the impact of the education coding change, we ran similar wage regressions from February 1990 to February 1992 and 1993 using the new education categories. The differentials revealed the same trends as those shown in the tables.

The college-high school differentials show a sharp growth from 1979 to 1989, as has been widely noted in the literature. The basic model shows the college-high school wage differential to have grown 1.5% or 1.6% a year for both men and women in both data sets. From 1989 on, however, a sharp deceleration or, in some cases, a decline in the differential is revealed. For example, all specifications using the March data show a declining differential for men in 1990-92 and for women in 1989-92. The ORG results show either flattening differentials for men beginning in 1989 (when they grew a

TABLE A1
College-High School Hourly Wage Differences in the Outgoing Rotation Group, 1979-93

	College-High School Differential		
	(1) Basic Model	(2) Basic Model Plus Industry	(3) Basic Model Plus Occupation and Industry
Men			
1979	0.266	0.297	0.194
1989	0.411	0.418	0.273
1990	0.418	0.422	0.275
1991	0.415	0.416	0.267
1992(i)	0.425	0.429	0.276
1993(i)	0.430	0.431	0.278
Annual Change			
1979-89	0.0145	0.0121	0.0079
1989-93	0.0048	0.0034	0.0014
1990-93	0.0040	0.0032	0.0011
Women			
1979	0.308	0.287	0.144
1989	0.459	0.408	0.250
1990	0.477	0.425	0.261
1991	0.464	0.410	0.250
1992(i)	0.477	0.420	0.253
1993(i)	0.480	0.423	0.253
Annual Change			
1979-89	0.0151	0.0121	0.0106
1989-93	0.0053	0.0039	0.0007
1990-93	0.0013	-0.0005	-0.0028

(i) Education categories imputed.

Note: Models—the dependent variable is the log of wages and salaries per hour. The controls in model 1 are education, experience as a quartic, four regional dummy variables, marital status, and race controls. Model 2 adds 12 industry controls. Model 3 is model 2 plus nine occupation controls. The sample is wage and salary workers age 18-64.

TABLE A2
College-High School Hourly Wage Differentials in the March CPS, 1979-93

	College-High School Differential		
	(1) Basic Model	(2) Basic Model Plus Industry	(3) Basic Model Plus Occupation and Industry
Men			
1979	0.259	0.292	0.207
1989	0.405	0.412	0.300
1990	0.423	0.424	0.297
1992(i)	0.416	0.417	0.289
Annual Change			
1979-89	0.0146	0.0120	0.0093
1989-92	0.0037	0.0016	-0.0039
1990-92	-0.0038	-0.0033	-0.0041
Women			
1979	0.324	0.317	0.183
1989	0.486	0.447	0.306
1990	0.485	0.447	0.294
1992(i)	0.476	0.435	0.282
Annual Change			
1979-89	0.0161	0.0130	0.0123
1989-92	-0.0033	-0.0040	-0.0079
1990-92	-0.0046	-0.0060	-0.0061

(i) Education categories imputed.

All models are weighted by weeks worked. See Table A1 for specifications.

third as fast in model 1 or a fifth as fast in model 3) or falling differentials for women in models 2 and 3, 1990-93. The sharp deceleration or decline of differentials in the 1990s, as shown in model 2 (which controls for between-industry shifts), challenges the notion that skill-biased technological change was driving within-industry demand in the 1990s. Note that supply changes do not explain these trends in differentials over the 1990s, since the relative supply of college graduates actually slowed over this period for men and did not grow for women. These results only differ from those in Chapter 3 by the fact that the flattening of the growth of education differentials begins in 1989 (rather than 1990) with the regression-based estimates.

TABLE NOTES

Frequently Cited Sources

The following abbreviations are used throughout the table notes.

ERP—President of the United States. *Economic Report of the President*, 1994.

Green Book—U.S. House of Representatives. *Green Book*, 1992 or 1993.

P-20 and P-60 Series—U.S. Department of Commerce, Bureau of the Census, various dates.

SCB—U.S. Department of Commerce. *Survey of Current Business*, monthly.

Employment and Earnings—U.S. Department of Labor, *Employment and Earnings*, monthly and historical supplements.

NIPA—U.S. Department of Commerce, *National Income and Product Accounts*, revisions as of spring 1994, except Table 1.15 (August 1994).

Chapter 1

1.1 *Median Family Income. P-60 Series*, No. 167, p. 17; *P-60 Series*, No. 184, p. B-10. Data for 1993 and revised data (reweighted to 1990 census weights) for 1989 and 1992 from miscellaneous data accompanying the October 6, 1994 press release and from other data obtained by phone and fax.

1.2 *Annual Growth of Median Family Income*. Yearly dollar change is annual average of total dollar change in period from sources listed in Table 1.1. Size-adjusted median family income is weighted by families and adjusted for family size using the poverty equivalence scale. This is actually the average income in the middle fifth, not the median. Based on data in Table 1.1 and from *Green Book* (1992), p. 1446.

1.3 *Median Family Income by Age of Householder. P-60 Series*, No. 184, p. B-23, and new data described in note to Table 1.1. Unfortunately, reweighted data for 1989 were not available.

1.4 *Median Family Income By Race/Ethnic Group. P-60 Series*, No. 184, pp. B-10-11, and new data described in note to Table 1.1.

1.5 *Median Family Income by Family Type. P-60 Series,* No. 184, p. B-24, and new data described in note to Table 1.1.

1.6 *Shares of Family Income Going to Various Income Groups and to Top 5%. P-60 Series,* No. 184, p. B-13, and new data described in note to Table 1.1.

1.7 *Real Family Income Growth by Income Group. P-60 Series,* No. 184, p. B-13, and new data described in note to Table 1.1.

1.8 *Income Growth by Income Group and Family Type. Green Book* (1992), Table 45, pp. 1371-72.

1.9 *Income Growth Among Top Fifth and by Fifth.* From House of Representatives, Ways and Means Committee (1991). Persons are placed into fifths and percentiles based on adjusted family income; the numbers in the table, however, are average *unadjusted* family incomes for the families in each group. The numbers of persons in each fifth are the same, though the numbers of families differ. Averages are weighted by families, not by persons. "All" includes families with zero or negative incomes, but the bottom fifth excludes these families.

1.10 *Changes in Family Income Shares.* House of Representatives, Ways and Means Committee (1991). See note to Table 1.9. Shares for groups add up to slightly more than 100% because families with negative incomes are excluded from the lowest fifth but included in "All." Maximum income thresholds are for a family of four as presented in *Green Book* (1992, p. 1515). The actual income thresholds depend on family size, and we use the four-person threshold for illustrative purposes.

1.11 *Shares of Consumption.* From Cutler and Katz (1992), Table 1.

1.12 *Share of Aggregate Income Growth.* See note to Table 1.10. Shares for groups add up to slightly more than 100% because families with negative incomes are excluded from the lowest fifth but included in "All" and, therefore, affect the aggregate growth.

1.13 *Source of Family Income for Each Family Income Group.* From unpublished Congressional Budget Office (CBO) tabulations, "Shares and Sources of Family Income: All Families, 1977, 1980, 1985, 1988, and 1989," provided by Frank Sammartino. Market-based income is total income less transfer and other (e.g., alimony, pension) income.

1.14 *Real Income Growth by Type of Personal Income.* Analysis of *NIPA,* Table 2.1. Capital gains data are net capital gains from Internal Revenue Service, Statistics of Income Bulletin Historical Tables. Market-based income excludes transfers and includes types of income listed in table.

1.15 *Shares of Market-Based Personal Income by Type.* Analysis of *NIPA,* Table 2.1.

1.16 *Shares of Income by Type by Sector.* Analysis of *NIPA,* Table 1.15. The "Corporate and Business" sector includes "corporate," "other private business," and "rest of world." The "government/nonprofit" sector includes the household, government enterprise, and government sectors, all of which generate no capital income.

1.17 *Distribution of Labor and Capital Incomes.* See note to Table 1.13.

1.18 *Sources of Income Growth of Top Fifth.* Data derived from shares of income by type of income from unpublished CBO data (see note to Table 1.13) and from income levels from Table 1.9.

1.19 *Shares of Income by Type of Income for Top Fifth.* Analysis of data in Table 1.18.

1.20 *Growth in Household Income, Actual and Fixed Demographic Weights.* This analysis is from Blank and Card (1993). The fixed demographic series results from holding the population shares of five family types (noted in the text) constant at their 1967 levels while allowing the income within each family type to vary over time. Thus, the difference between the actual and fixed series can be attributed to shifting family composition. The time series does not appear in the paper and was provided by Rebecca Blank. A common caveat to this type of analysis is that it ignores the interaction between family composition shifts and income changes. The extent to which income changes *cause* composition shifts is not captured by this technique.

1.21 *Detailed Effects of Demographic Changes on Median Household Income. P-60 Series,* No. 183, pp. 20-22. The analysis from which we take these numbers is based on a standardization technique wherein cases from the March CPS are reweighted to reflect composition shifts in a number of factors over time. The factors used in the table reflect four age groups, three racial groups, three education categories, and three household types. The difference between the actual and the reweighted change in the median reflect the compositional shifts.

1.22 *Distribution of Persons, Households and Families by Income Level. P-60 Series,* No. 184, pp. B-3 and B-10. Data for 1992, relative income, provided by John McNeil.

1.23 *Distribution of Prime-Age Adults by Relative Income Level. P-60 Series,* No. 177, pp. 18-19. Data for 1992 provided by John McNeil.

1.24 *Changes in Incomes of Married-Couple Families With Children, by Source.* Joint Economic Committee (JEC) (1992), Table 1.

1.25 *Husbands' and Wives' Hours of Work.* JEC (1992), Tables 3 and 4. The hours for employed wives and husbands are corrected numbers from tabulations provided by the JEC.

1.26 *Change in Hourly Wages of Husbands and Wives.* JEC (1992), Table 2.

1.27 *Role of Higher Wives' Earnings and Hours on Family Income Growth.* Based on the hours, wages, and income data presented in Tables 1.23, 1.24, and 1.25, and JEC (1992), Tables 1 and 7. The hypothetical calculations use the hours, wages, and incomes in 1979 as a base and ask, what if the hours or earnings of wives remained at the 1979 levels but other dimensions of income changed, as they did over the 1979-89 period? In estimating the impact of increased hours, the 1989 hourly wage levels of wives are used.

1.28 *Effect of Wives' Earnings on Income Shares Among Married Couples With Children.* Derived from data presented in JEC (1992), Table 8.

1.29 *Changes in Hours Worked in All Families and in Married-Couple Families.* Based on Congressional Research Service computations of March CPS data, presented in *Green Book* (1992), Table 70, pp. 1424-25.

1.30 *Effect of Wives' Earnings on Income Inequality Among All Families and Married Couples.* From Cancian, Danziger, and Gottschalk (1993), Table 7.

1.31 *Hours Worked by Employed Parents by Gender.* Leete-Guy and Schor (1992), Table 9.

1.32 *Income Growth by Cohort.* From unpublished Bureau of the Census historical tables, Table 15.

1.33 *Income Mobility in the 1970s and 1980s, Prime-Age Persons, by Age Level at End of Decade.* Steve Rose (1993). The extra mobility categories that do not appear in the article are from unpublished tabulations by Rose.

1.34 *Income Mobility in the 1970s and 1980s, Prime-Age Persons, by Education Level.* See note to Table 1.33.

1.35 *Income Mobility in the 1970s and 1980s, Prime-Age Persons, by Race.* See note to Table 1.33.

1.36 *Effect of Growth of Wages, Wage Inequality, and Unemployment on Family Earnings and Income by Income Fifth.* These data are based on an analysis of data presented in Blank and Card (1993): for unemployment, Table 5; for wage inequality and log wage growth, the coefficients in Table 7; and for the means for wages and income, Table 5. The percentage effect of a factor is the coefficient in Table 7 divided by the period mean in Table 5. Addendum sources: median wages, see Table 3.6; standard deviation log wages, authors' analysis of CPS data (see Appendix); unemployment rates, Blank and Card (1993), p. 293.

1.37 *Estimated Effects of Unemployment, Poverty, and Wage Inequality on Social Stressors.* Merva and Fowles (1994), Table 1.

Chapter 2

2.1 *Federal vs. State and Local Tax Burdens. NIPA*, Tables 1.1, 3.2, and 3.3. From Bureau of Economic Analysis (BEA) diskette, released April 1994.

2.2 *Tax Revenues in OECD Countries.* From Organization for Economic Cooperation and Development (OECD) (1993c), p. 75.

2.3 *Average After-Tax Family Income.* U.S. House of Representatives (1991), pp. 67-68. Projected data, including projected deflator, for 1995 provided by Frank Sammartino, CBO. These data are generated by the same CBO model which generated the earlier results.

2.4 *Shares of After-Tax Income for All Families. Green Book* (1993), pp. 77-89, and data from Sammartino, CBO (see note for Table 2.3).

2.5 *The Effects of Tax and Income Changes on After-Tax Income Shares.* 1977 and 1989 actual effective rates were applied to 1989 average before-tax incomes—from U.S. House of Representatives (1991), p. 67, and data from Sammartino, CBO (see note for Table 2.3). The resulting average after-tax incomes were multiplied by the number of families in each group to get total after-tax incomes per group. Then, these were converted to shares by dividing each group's total by the sum over the groups. Shares in columns 1-4 differ somewhat from corresponding shares in Table 2.4 because of rounding error in U.S. House of Representatives (1991) and Sammartino tables—particularly for the number of families in the top 1%—and because total income for all families in Table 2.5 necessarily excludes families with zero or negative incomes; in Table 2.4 such families are included.

2.6 *Effect of OBRA93.* CBO (1994), p. 32. In order to calculate estimates for the bottom four-fifths, we use CBO's estimate of number of families in 1994 provided by Sammartino, CBO.

2.7 *Effective Federal Tax Rates.* U.S. House of Representatives (1991), p. 73, and data from Sammartino, CBO (see note to Table 2.3).

2.8 *Effect of Federal Tax Changes on Family Tax Payments.* Average pre-tax family income is from U.S. House of Representatives (1991), p. 67, and Sammartino, CBO (see note to Table 2.3). See note to Table 2.6 for effective rates.

2.9 *Effective Tax Rates for Selected Federal Taxes.* Data provided by Sammartino, CBO, from CBO's tax simulator model.

2.10 *Changes in Effective Federal Taxes.* See note, Table 2.8.

2.11 *Taxed and Untaxed Corporate Profits.* Figures are from *NIPA*, Tables 1.1 and 1.16. Taxes include federal, state, and local combined. Actual profits are taxed profits plus net interest (interest paid minus interest received) and the difference between the allowance for inventory investment and capital depreciation allowed in the tax code, on the one hand, and actual inventory investment and capital depreciation on the other. The idea for this analysis is based on an unpublished paper of Thomas Karier. Only nonfinancial corporations are included because banks do not pay net interest—they *receive* net interest.

2.12 *Corporate Profits Tax Rates. NIPA*, Tables 1.1 and 1.16.

2.13 *Total State and Local Taxes in 1991 (Effective Rates) as Shares of Income for Families of Four.* Citizens for Tax Justice (CTJ) (1991), p. 18. Any tax analysis of this nature must make a number of assumptions regarding tax incidence. For example, in this study, half of the property tax paid on rental units is allocated to the owners of the property and half is assigned to the renters in the form of higher rents. We consider the assumptions in this study to be reasonable and unbiased. The methodology of the study is discussed on pp. 70-72.

2.14 *Federal vs. State and Local Taxes as a Percent of Revenue at Each Level. NIPA*, Tables 3.2 and 3.3.

2.15 *The Composition of Taxes, as a Percent of GDP. NIPA*, Tables 1.1, 3.2, and 3.3.

Chapter 3

3.1 *Trends in Average Wages and Average Hours.* The 1967-73 and 1973-79 trends are from unpublished tabulations data provided by Kevin Murphy from an update of Murphy and Welch (1989). These data are based on the March Current Population Survey (CPS) files. Hours of work were derived from differences between annual, weekly, and hourly wage trends. The data include self-employed as well as wage and salary workers. The trends from 1979 on are based on the authors' tabulations of March CPS files using an hour-weighted weekly and hourly wage series. The Murphy data were bridged to the 1979 levels. The data from 1979 on are for wage and salary workers. Productivity data are from *ERP* (1994), Table B-47 for the nonfarm business sector.

3.2 *Changes in Hourly Wages, Benefits, and Compensation.* Based on employment cost levels from the BLS Employment Cost Index series for March 1987 to March 1994 for private-sector workers. We categorize pay differently than BLS, putting all wage-related items (including paid leave) into the hourly wage. Benefits, in our definition, include only payroll taxes, pensions, insurance, and "other" benefits. See Mishel and Bernstein (1992a), Appendix A, for further discussion. It is important to use the current-weighted series rather than the fixed-weighted series because composition shifts have a large effect. Data for 1966, 1972, and 1977 are based on BLS surveys of employer expenditures for employee compensation (EEEC) in the private nonfarm economy, provided by BLS economist Albert Schwenk.

3.3 *Hourly and Weekly Earnings of Production and Nonsupervisory Workers. Employment Earnings* (March 1994), Table B-2, p. 53; for 1947, Supplement to *Employment and Earnings* (March 1985), p. 5.

3.4 *Changes in Wages and Compensation.* See note to Table 3.2. Our analysis trying to match occupational data from the earlier EEEC data to the ECI data yielded nonsensical results, perhaps based on changes in definitions.

3.5 *Changes in Hourly Wages by Occupation.* Based on analysis of CPS wage data described in Appendix.

3.6 *Wages for All Workers by Wage Percentile.* Based on analysis of CPS wage data described in Appendix.

3.7 *Wages for Male Workers by Wage Percentile.* Based on analysis of CPS wage data described in Appendix.

3.8 *Wages for Female Workers by Wage Percentile.* Based on analysis of CPS wage data described in Appendix.

3.9 *Changes in the Gender Wage Differential.* Based on data from Tables 3.7 and 3.8.

3.10 *Distribution of Total Employment by Wage Level.* Based on analysis of CPS wage data described in Appendix. The poverty-level wage was defined as the four-person poverty threshold in 1979 divided by 2,080 hours and deflated by CPI-U-X1 to obtain levels for other years. We calculated more intervals than we show but aggregated for simplicity of presentation (no trends were lost).

3.11 *Distribution of White Employment by Wage level.* See note to Table 3.10. These are non-Hispanic whites.

3.12 *Distribution of Black Employment by Wage Level.* See note to Table 3.10. These are non-Hispanic blacks.

3.13 *Distribution of Hispanic Employment by Wage Level.* See note to Table 3.10. Hispanics may be of any race.

3.14 *Employer Hourly Benefit Costs, by Type.* Based on EEEC and ECI as described in note to Table 3.2. Inflation in medical care services from *ERP* (1992), Table B-58, p. 364 and from Table 31 in June 1993 *Monthly Labor Review.* The medical care services inflation is measured as annual inflation, while consumer prices are for the relevant quarters.

3.15 *Changes in Private-Sector Benefit Coverage.* Based on tabulations of the March 1980 and March 1990 CPS data files, provided by Edie Rasell. The sample includes wage and salary workers ages 18-64 in the private sector who worked at least 20 hours weekly and for at least 26 weeks. Health insurance coverage is where the employer offers coverage and pays for at least some of the costs. Pension coverage is where worker's employer has a plan and employee participates in it. Unfortunately, the 1979 data are based on 1970 Census weights.

3.16 *Days Off With Pay.* Based on unpublished Bureau of Labor Statistics data, provided by Bill Gullickson, on the ratio of hours at work to hours paid for production and nonsupervisory workers in nonagricultural business (limited to 1981-89) and in manufacturing (1947-89). The days of paid leave are computed from one less the ratio of hours at work to hours paid times 260 days (assumes a 5-day week for 52 weeks). Data for nonfarm business for 1966, 1972, and 1977 derived from EEEC data (see note to Table 3.2) from the ratio of hourly compensation per hour paid to hourly compensation per hour worked.

3.17 *Dimensions of Male-Wage-Inequality Growth.* The differentials denoted as "weekly" are a weekly wage series based on the March CPS series provided by Chinhui Juhn and are the series analyzed in Juhn, Murphy, and Pierce (1993). The "hourly" wage differentials are based on the authors' wage series based on the CPS ORG files. See the Appendix for details. The percentile differentials, education differential, and experience differential were derived from the data used in Tables 3.7, 3.19, and 3.22. The within-group wage inequality series is reported in Mishel and Bernstein (1994), Appendix Table A.

3.18 *Change in Real Hourly Wage by Education.* Based on tabulations of CPS wage data described in Appendix. The group with 17 years of schooling (college plus one) is omitted for simplicity of presentation. Since the CPS questions on educational attainment shifted in 1992, it was necessary to impute the old categories into the 1992 and 1993 data (see Appendix for details). The shares of the workforce by education category are from tabulations of wage earners.

3.19 *Change in Real Hourly Wage for Men by Education.* See note to Table 3.18.

3.20 *Change in Real Hourly Wage for Women by Education.* See note to Table 3.18.

3.21 *Educational Attainment of Workforce.* Based on tabulation of CPS wage earners. The sample is described in Appendix.

3.22 *Change in Real Hourly Wage by Work Experience.* Based on tabulations of CPS wage data described in Appendix.

3.23 *Entry-Level Wages and Employment Shares.* Based on tabulations of CPS wage data described in Appendix. Following Katz and Murphy (1992), we examine the wages of workers with 1-5 years of work experience (traditionally defined).

3.24 *Change in Entry-Level Wages by Gender and Ethnicity*. See note to Table 3.23. It was necessary to omit certain gender/race/ethnicity categories because of small sample sizes, despite our pooling of the May CPS data for 1973 and 1974.

3.25 *Test Scores by Ethnicity and Location*. Unpublished tabulations of microdata from the National Assessment of Educational Progress (NAEP) provided by Elizabeth Greenberg.

3.26 *Test Score Trends by Percentile*. See note to Table 3.25.

3.27 *The Role of Test Scores on Male Wage Structure*. Based on analysis of Tables 1 and 2 in Murnane, Willett, and Levy (1994) to replicate data for a graph they present. High and low test scorers are one standard deviation (6.25) above and below the mean. The 1986 wage at average test scores of 1972 class is based on evaluation of the test-score drop and the coefficient on test scores.

3.28 *Employment Growth by Sector*. Employment data from Labstat database. Hourly compensation data from BLS Employment Cost Index series, Employers' Costs from Employee Compensation—March 1993.

3.29 *Changes in Employment Share by Sector*. Based on data in Table 3.28.

3.30 *Effect of Structural Employment Shifts on Pay Levels*. This comparison is based on two computations of pay levels in March 1989. One is the current weighted pay levels from the Employment Cost Index. See note to Table 3.2. The other is from the underlying, unpublished data used to compute quarterly changes in hourly wages and compensation, which is based on 1980 Census weights. The major difference between the pay levels in these computations is the weighting scheme. Because the data with current weights are based on an employer survey, and the data with 1980 weights are based on a household survey, the difference in the weighted and unweighted pay levels also incorporates differences in how households and employers classify the workforce by occupation. Household data yield a larger share of executives, managers, and sales workers and a lesser share of administrative and service workers. We correct for this by calculating the effect of the difference between household (CPS) data and employer (OES) data on pay levels in 1990 using a shift-share analysis. Pay levels are wages or compensation from the ECI for 1990. The CPS household employment data are from *Employment and Earnings* (January 1991), Table 21, p. 184. The OES employer data are from Silvestri and Lukasiewic (1991), Table 1. p. 65.

3.31 *Pay in Expanding and Shrinking Industries.* Costrell (1988), Tables A4 and A5.

3.32 *Trade-Induced Changes in Labor Supply.* From Borjas et al. (1991), Table 1.

3.33 *Immigration and Labor Supply.* From Borjas et al. (1991), Tables 2 and 3.

3.34 *Effect of Trade on Labor Supply of High-School- and College-Educated Workers.* From Borjas et al. (1991), Table 5.

3.35 *Effect of Trade and Immigration on Education Wage Differential.* From Borjas et al. (1991), Table 6.

3.36 *Comparison of Union and Nonunion Hourly Wages and Benefits.* Employment Cost Index pay level data in U.S. Department of Labor (1989b), Table 10.

3.37 *Union Wage Premium by Demographic Group.* Regression estimates of union wage differentials using CPS data for 1991. See Appendix for description. The data in the table are the coefficients on union membership in a model with controls for education, experience, experience squared, marital status, region, industry and occupation, race/ethnicity, and gender where appropriate. Percent union is percent of group "represented by unions" from Table 57 of *Employment and Earnings* (January 1992).

3.38 *Effect of Deunionization on Male Occupation and Education Differentials.* From Freeman (1991), Table 2.

3.39 *Impact of Deunionization on Changes in Average Hourly Earnings.* From Blackburn et al. (1991), Appendix Table 4.

3.40 *Effect of Unions on Wages, by Wage Fifth.* From Card (1991), Table 8. The effect of deunionization is the change in union coverage times the union wage premium.

3.41 *Effect of Unions on Male Wage Inequality.* From Card (1991), Table 9; Freeman (1991), Table 6; and Dinardo, Fortin, and Lemieux (1994), Table 4.

3.42 *Value of Minimum Wage.* Historical values of minimum wage from Shapiro (1987), p. 19. Wages for 1990 and 1991 are based on legislated increases to $3.80 on April 1, 1990 and to $4.25 on April 1, 1991.

3.43 *Amount by Which Earnings of a Full-Time, Full-Year Minimum-Wage Worker Are Above or Below the Poverty Line.* See note to Table 3.42 for source of minimum-wage levels. Annual earnings are based on 2,080 paid hours of work, and assume no additional income. Poverty lines are from *P-60 Series* (No. 185, p. A-8). This source gives poverty lines adjusted by the CPI-U. We take the difference between these poverty lines and the full-time, full-year salary of a minimum-wage worker (in 1993 dollars) as the "gap."

3.44 *Minimum-Wage Workforce Demographic Composition.* Based on tabulations of CPS wage data described in Appendix. Because of the change in the legislated minimum wage in April 1991, the definition of a minimum-wage worker differs between the first three and the last nine months.

3.45 *Distribution of Wage Earners by Minimum-Wage Status and Family Income.* Based on tabulations of March 1990 CPS data file prepared by Bill Spriggs (1992).

3.46 *Effect of a Minimum-Wage Decline on Wage Differentials.* The analysis presents simulations of the 1989 wage distribution, one with and one without a spillover effect. The spillover effect is based on Spriggs and Klein (1994), which identified certain occupation-industry cells whose wages are linked to the minimum. The spillover effect applies only to high school and "less than high school" workers with 0-10 years experience in these cells, a total of 2.2 million men and 2.5 million women (4.1% of men, 5.3% of women). The "no spillover" simulation provides the 1979 real minimum wage to those earning between the legal minimum ($3.35) and the value of the 1979 minimum. It assumes those working below the minimum get no increase (Blackburn et al. [1991] allowed for a proportional increase for the "uncovered"). We build in the same disemployment effects as in Horrigan and Mincy (1993) (given to those in the minimum-wage clusters with 0-10 years experience, high school or less, and did not get the minimum-wage increase). In our analysis, 8.7% of men get the new minimum and another 4.1% get the spillover. Among women, 17% get the minimum and 5.3% get the spillover.

3.47 *Role of Institutions on Wage Inequality by Demographic Group.* Dinardo, Fortin, and Lemieux (1994), Table 4.

3.48 *Technology Indicators.* Mishel and Bernstein (1994), Table 1 and Appendix Table B.

3.49 *Technology and Industry-Shift Impact on Educational Upgrading Within Industries, 1973-79 vs. 1979-89.* Mishel and Bernstein (1994), Table 3.

3.50 *Technology Impact on Gross and Within-Group Wage Inequality.* Mishel and Bernstein (1994), Table 5.

3.51 *Effect of Computer Usage on Wage Structure.* Derived from Krueger (1991), Tables 1 and 8. The computer-use wage premium is based on the coefficients of the computer-use variable (a) and its interaction (b) with schooling (S) as exp (a+bS)-1.

3.52 *Executive Pay Levels. The Economist* (December 23, 1989), using data on gross and net income in dollars. Converted from dollars to national currency using exchange rates from *ERP* (1990), Table C-109, p. 418, and then converted to constant currency values using an index for domestic consumer prices from International Monetary Fund, *International Financial*

Statistics, except that the PCE index was used for the United States.

3.53 *Comparative Pay Levels of Workers and CEOs*. Towers, Perrin, and Company, October 1988, Exhibits 8 and 9, pp. 18-19. Hourly compensation of production workers from U.S. Department of Labor (1993b). CEO pay from Towers, Perrin, and Company (October 1988).

3.54 *Black-White Wage Differentials Among Young Workers*. From Bound and Freeman (1991), Table 3. The data were transformed from log points to percentage changes.

3.55 *Wage and Benefit Differences by Firm Size*. Regression estimates from May supplements to the CPS in 1979 and 1988 provided by Dale Belman. Models include controls for education, experience, race, gender, collective bargaining coverage, marital status, part-time status, one digit occupation, major industry, urban location, and region. Differentials are based on size dummy variables (the smallest omitted) with the values for the smallest size based on sample averages of included variables and estimated coefficients.

3.56 *Male Hourly Wage Mobility*. Rose, NCEP (1994), Table 7.

3.57 *Female Hourly Wage Mobility*. Rose, NCEP (1994), Table 8.

3.58 *Demand Shifts: Skill and Education Requirements of Jobs*. Teixeira and Greenberg (1993), Table 3.

3.59 *Future Labor Supply Trends*. Immigration was projected by extrapolating the 1980-88 trends in immigrant employment share of Borjas et al. (1991) to 1992. Data from Census *P-25 Series*, No. 1104, Table 1 were used to project the net immigrant (ages 16-64) increase to 2005 (13 times annual growth). The BLS projections of labor-force participation in 1998 were used to translate population growth into labor-force growth. This estimate was reduced to account for the aging of the immigrant population beyond age 64, using Tables C-3 and C-4. The Census and BLS projections data for medium and high were matched.

Labor-force median age from Fullerton (1993), Table 8. Estimate of college degrees awarded are based on the Department of Education's "high" projections. Enrollment rates for full-time students in 1988 and 2001 are simple averages of ages 18-24 in Table A-1.3, p.91, in U.S. Department of Education (1993). College-age populations from Table B4, p. 121. Bachelor's degrees awarded from Table 28, p. 52. These were converted from middle projection to a "high" projection based on the ratio of the growth of high to middle enrollment rates. Labor-force data are from Fullerton (1993), Table 4, interpolated to obtain levels in 2001.

3.60 *Future Productivity, Trade, and Institutional Factors*. Goods share of employment from Franklin (1993), Table 2. The trade share of GDP, or the ratio of imports and exports to GDP, from Saunders (1993), Table 2. Union coverage and minimum-wage trends are the authors' best judgment. The sources of productivity projections are: for BLS, Saunders (1993), Table 10; for CBO, from conversation with John Peterson; for Merrill Lynch, from its *Weekly Economic and Financial Commentary* (June 6, 1994).

Chapter 4

4.1 *Unemployment Rates. Employment and Earnings* (January 1990), Table 3, pp. 162-64 and Table 39, p. 206; and *Employment and Earnings* (January 1994), Table 39, p. 228.

4.2 *Rates of Underemployment*. For 1973 and 1979, U.S. Department of Labor (1985), p. 6, Table 1, p. 14, Table 4, p. 58. For 1989, *Employment and Earnings* (January 1990), Table 1, p. 160, Table 31, p. 199, Table 35, p. 202. For 1993, *Employment and Earnings* (January 1994), Table 1, p. 182, Table 31, p. 221, Table 35, p. 224.

4.3 *Effect of Higher Unemployment Rate on Weeks Unemployed and Employed and on Annual Earnings*. Analysis of Tables 5 and 7 in Blank and Card (1993). These tables are slightly mismatched because the coefficients in Table 7 are for the 1973-91 period while the means in Table 5 are for the 1967-91 period.

4.4 *Changes in Unemployment in Post-War Recessions*. Unemployment rates for all but the 1990s recession from Meisenheimer et al. (1992), Table 4. 1990 data from *Employment and Earnings* (January 1992), Table A-43, p. 54. 1992 data from *Employment and Earnings* (January 1994), Table A-43, p. 53. Unemployment rate due to "permanent job loss" is based on "other job loser" category, with "other reasons" including layoffs, job leaves, re-entrants, and new entrants. The permanent job loser unemployment rate was derived from the aggregate unemployment rate and from data on the percentage of the unemployed that were "other job losers" from U.S. Department of Labor (1982), Table E-23, p. 417 for 1967-81; from BLS economist Gloria Green for 1982; from *Employment and Earnings* (January 1992), Table A-52, p. 62 for 1990; and from *Employment and Earnings* (January 1994), Table A-52, p. 61 for 1992. Length of recessions are based on NBER dating, as presented in Henwood (1991), p. 9.

Last, in contrast to the BLS analysis, we identified 1990:2 and not 1990:3 as the peak quarter because of the 0.3% rise in unemployment in that period. The other peak quarters identified by BLS were output peaks, not unemployment peaks. However, choosing the unemployment peak, as we did for 1990, would only affect the 1980:1 peak and not other peaks.

4.5 *Change in Unemployment Rate by Occupation, Gender, Race, and Industry.* For 1990 from *Employment and Earnings* (January 1991), Table A-50. For 1991 from *Employment and Earnings* (January 1992), Table A-50. For 1992, from *Employment and Earnings* (January 1993), Table A-50.

4.6 *Changes in Employment and Unemployment in Recessions by Occupation.* Data through 1982 from unpublished tabulation, provided by BLS economist Joseph Meisenheimer, of data used in Meisenheimer et al. (1992), Table 5; for 1990 from *Employment and Earnings* (April 1992), Table A-46; and for 1992 from Labstat database.

4.7 *Amount of Worker Displacement.* Analysis of unpublished BLS tabulations of worker displacement with no tenure cutoff, presented in Mishel and Bernstein (1992b).

4.8 *Number and Rate of Displacements in Early-1980s and Early-1990s Recessions.* Analysis of unpublished BLS tabulations. See note to Table 4.7. CPS employment levels in midpoint of time range used to compute displacement rate.

4.9 *Proportion of the Unemployed Who Receive Some Unemployment Insurance Payment.* Lav, Nichols, St. George, and Greenstein (1993), Table 6.

4.10 *Comparison of Recent Cycle to Earlier Post-War Business Cycles.* All of the data were from the BLS Labstat database and are conventionally defined. Involuntary part-time share of employment is for total nonagricultural industries "at work." The 1994 data are not seasonally adjusted, so we adjusted the nonseasonally adjusted to the same pattern as civilian employment. The change in the CPS from 1993 to 1994 presented a challenge, because the change from December 1993 to January 1994 is mostly a change in measurement method. We bridged the two series by first constructing the trend three months before and after the change. We then assigned the most favorable (i.e., positive) trends to the December-January period. We use the January-June 1994 trends to complete the series for our analysis.

4.11 *Employment Growth.* For full-time equivalent, *NIPA* (Table 6.5C). For hours, *NIPA* (Table 6.9C, earliest year is 1948 so growth rate for earliest period adjusted accordingly). For labor-force participation, working-age population and civilian employment, *Employment and Earnings* (January 1994), Table 1, p. 182. Payroll employment from Table B-1, p. 67. Note the slowdown in labor-force participation is even greater when the measure is decline in nonparticipation.

4.12 *Composition of Nonagricultural Employment.* For 1973 and 1979 from U.S. Department of Labor (1989b), Table 23, p. 121. For 1989 from *Employment and Earnings* (January 1990), Table 32, p. 199. For 1991 from *Em-*

ployment and Earnings (January 1992), Table 32, p. 201. For 1993 from *Employment and Earnings* (January 1992), Table 32, p. 221.

4.13 *Age and Gender Composition of the Labor Force and Rate of Part-Time Employment.* From Tilly (1991), Table 1.

4.14 *Industry Composition of the Labor Force and Rate of Part-Time Employment.* From Tilly (1990), Table 3.

4.15 *Rates of Voluntary and Involuntary Part-Time Work by Industry.* From Tilly (1991), Table 4.

4.16 *Wage Differences Between Part-Time and Full-Time Workers by Gender and Selected Occupations.* From analysis of CPS wage data as described in Appendix.

4.17 *Difference in Fringe Benefits for Full-Time and Part-Time Workers, by Gender or Marital Status and Occupation.* Blank (1990), Table 4, p. 30.

4.18 *Growth of Multiple Jobholding, All Workers.* All figures are from May of the given year. 1973 and 1989 are from U.S. Department of Labor (1989d). 1985 is from Stinson (1986). 1979 is from Sekscenski (1980). Data for 1994 are for May and are from unpublished BLS Table A-35.

4.19 *Growth of Multiple Jobholding by Gender.* See note to Table 4.18.

4.20 *Distribution of Multiple Jobholders Experiencing Economic Hardship.* See note to Table 4.18.

4.21 *Hours Worked by Multiple Jobholders, by Gender.* Unpublished BLS tabulation for May 1994, Table 40.

4.22 *The Use of Various Types of Contingent Labor.* The two surveys are the Conference Board survey (1989) and the Bureau of National Affairs survey (1986). For details see Carre (1992).

4.23 *The Growth in Personnel-Services Industry Employment.* From BLS Labstat data.

4.24 *Growth in Temporary-Help Industry Employment.* Employment in SIC 7362 from BLS Labstat data.

4.25 *Elements of the Marginal Workforce.* Carre (1992).

4.26 *The Growth of Self-Employment.* U.S. Department of Labor (1989b), Table 21, pp. 112-113; *Employment and Earnings* (January 1990), Table 23, p. 189; *Employment and Earnings* (January 1992), Table 23, p. 191 and Table 19, p. 18; and *Employment and Earnings* (January 1994), Table 23, p. 211.

4.27 *Wages and Benefits, Self-Employed vs. Wage and Salary Employment.* Devine (1994), Tables 4, 9, and 11.

Chapter 5

5.1 *Growth of Household Wealth.* Assets and debts are year-end outstanding values from balance-sheet data for households, personal trusts, and nonprofit organizations from Board of Governors (1994), pp. 20-25 for 1949-93. Nonprofit organizations, a small component judging from the breakout on tangible assets, were included because Federal Reserve System does not give breakout for financial assets. Data converted to real dollars using the Personal Consumption Expenditures fixed-weight price index from *NIPA*. The growth rates in the table are assets net of debt per adult. The number of adults from *ERP* (1994), Table B-32, and for 1993 from telephone conversation with Census Bureau's Population Estimates Department. Adult population includes the Army.

5.2 *Distribution of Wealth.* From 1989 Survey of Consumer Finance (SCF) tabulations in Wolff (1994), Table 4.

5.3 *Selected Holdings of Assets by Family Wealth Level.* 1989 SCF data from Wolff (1994), Table 12.

5.4 *Share of Total Household Wealth Held by Richest 1% of Individuals.* From Wolff (1992a), Table 1.

5.5 *Composition of Aggregate Household Wealth.* 1989 SCF data from Wolff (1994), Table 11.

5.6 *Changes in Distribution of Net Worth and Family Income.* 1983 and 1989 SCF data from Wolff (1994), Table 4.

5.7 *Sources of Wealth Growth.* Reported in Wolff (1992b), p. 21.

5.8 *Change in Net Worth by Wealth Class.* Computed from data in Wolff (1994), Table 5.

5.9 *Change in Wealth by Income Class.* From Census Bureau Survey of Income and Program Participation (SIPP) data presented in Eargle (1990), Table B, p. 3 and Eller (1994), Table B, p. vii.

5.10 *Household Debt Burden.* Asset and debt data from Federal Reserve Board balance-sheet data (see note to Table 5.1). Personal income data from *ERP* (1994), Table B-26. Debt-service-payment burdens from unpublished series prepared by the New York Federal Reserve Board.

5.11 *Ratio of Household Income and Wealth, Nonwhite to White Families.* From Wolff (1994), Table 9.

5.12 *Net Worth by Race and Household Characteristics.* From Wolff (1994), Table 10.

Chapter 6

6.1 *Percent and Number in Poverty, Actual and Predicted Values.* Actual poverty rates are from *P-60 Series,* No. 185, p. 16. Predicted rates are based on poverty-rate model described in Blank (1991). Variables in the model include male unemployment, growth in the CPI, the ratio of the poverty line to mean household income, the ratio of transfers to GNP, and the poverty rate, lagged one year. Fitted values are utilized through 1983; forecasted values are from 1984 on. Poverty rates and levels for 1989 and 1993 use 1990 census weights. Data for 1993 also reflect automated data-collection process introduced by data collectors in that year.

6.2 *Consumption-Based Poverty Measures.* Ruggles (1992), p. 7.

6.3 *Poverty Rates When (Nonmedical) Noncash Benefits Are Included.* U.S. House of Representatives (1993), p. 1320.

6.4 *Percent of Persons With Low Relative Income, Adjusted for Family Size. P-60 Series,* No. 177, p. 8, and unpublished data provided by Jack McNeil. Equivalence factors (to adjust for family size) are from Ruggles (1990). Unrelated individuals treated as one-person families.

6.5 *Poverty Gap: Aggregates and Mean.* Center for Budget and Policy Priorities (1993), p. 41, and *P-60 Series,* No. 188 (Excerpt), Table F. For a description of 1993 data changes, see note to Table 6.1.

6.6 *Persons Below 50% of the Poverty Level.* Center for Budget and Policy Priorities (1993), p. 45, and *P-60 Series,* No. 188 (Excerpt), Table E. For a description of 1993 data changes, see note to Table 6.1.

6.7 *Distribution of Poverty Spells for Persons Entering Poverty.* Stevens (1993), Table 1. Stevens' exit probabilities were converted to percent of persons completing spells using formula from Bane and Ellwood (1986), p. 10.

6.8 *Events Leading to Poverty Spells.* Stevens (1993), Table 5.

6.9 *Trends in Welfare Dependency Among Women, Age 15-44.* Gottschalk and Moffitt (1994), p. 39.

6.10 *Poverty by Race/Ethnicity.* Center for Budget and Policy Priorities (1993), p. 11, and *P-60 Series,* No. 188 (Excerpt), Table C. For a description of 1993 data changes, see note to Table 6.1. Values for 1989 are rebased using 1990 census population weights.

6.11 *Percent of Children in Poverty, by Race.* Center for Budget and Policy Priorities (1993), pp. 24 and 26, and *P-60 Series,* No. 188, pp. 10-11.

6.12 *Poverty Among the Elderly and All Persons Before and After Transfers.* Danziger and Weinberg (1992), Tables 2 and 7.

6.13 *Poverty Rates of Families With Children by Education Level of Family Head.* Sum, Fogg, and Fogg (1994), p. 58.

6.14 *High Risk Factors for Poverty, Females 25 and Over. P-60 Series,* No. 188, pp. 70-73.

6.15 *Changing Family Structure and Poverty. P-60 Series,* No. 185, p. 2.

6.16 *Changes in Demographic Structure and Poverty for Families With Children.* Underlying data are from Sum, Fogg, and Fogg (1994), pp. 64-65, and unpublished data provided by authors. This is a conventional shift share analysis with the effect of interactions divided evenly across between- and within-group changes.

6.17 *Poverty Rates for Female-Headed Families.* Center for Budget and Policy Priorities (1993), p. 15, and *P-60 Series,* No. 188 (Excerpt), Table C. For a description of 1993 data changes, see note to Table 6.1. Values for 1989 are rebased using 1990 census population weights.

6.18 *Poverty in Female-Headed Families, by Race.* See previous note.

6.19 *Distribution of Female Family Heads by Marital Status.* Women without dependents are not included. 1973 and 1979 are for women age 14 and over, while 1989 is restricted to women age 15 and over. 1973 numbers are from *P-20 Series,* No. 255, pp. 25-26; 1979 data come from *P-20 Series,* No. 349, pp. 31-32; 1989 data are from *P-20 Series,* No. 445, 1989, p. 55; 1993 data are from *P-20 Series,* No. 477, p. 85.

6.20 *Expected Lifetime Births, by Marital Status and Race.* Jencks (1991), p. 86. Updated using *Vital Statistics of the United States,* Vol. 1 (1989), Tables 1-1, 1-9, and 1-76.

6.21 *Poverty Rates Using Different Income Definitions. Green Book* (1993). All persons, p. 1343; single-parent families, p. 1345; and married-couple families, p. 1347.

6.22 *AFDC Participation Rates of Female-Headed Families With Children. Green Book* (1993), p. 685. U.S. Department of Health and Human Services, Social Security Administration (1992), p. 319. *P-20 Series,* pp. A2-A4; and unpublished Census data.

6.23 *Shares of Workers Earning Enough to Maintain a Family of Four at 75% of Poverty Line and up to the Poverty Line, by Gender and Race.* Authors' tabulations of CPS wage data. See Appendix for description of analytic methods.

6.24 *Wage Trends Relevant to the Poor and Near-Poor.* See note to Table 6.23.

6.25 *Work Experience of the Prime-Age Poor.* For 1979, *P-60 Series,* No. 130, p. 58; for 1989, *P-60 Series,* No. 168, p. 65; for 1992, *P-60 Series,* No. 185, p. 89; for 1993, *P-60 Series,* No. 188, p. 89.

6.26 *Percentage of Poor Families With Children With at Least One Full-Time "Worker Equivalent."* U.S. House of Representatives (1993), pp. 1326-27. Families include unrelated subfamilies.

6.27 *Hours Worked by Family Type in the Bottom Two-Fifths. Green Book* (1993), pp. 600-01.

Chapter 7

7.1 *Total Health Expenditures, Selected Countries.* Schieber, Poullier, and Greenwald (1993), Exhibit 1, p. 121, and the author's calculations of change in share of GDP. Averages are unweighted.

7.2 *Average Family Expenditures for Health Care.* Data for 1977 from Cantor (1990), Table 1; 1987 data from Rasell, Bernstein, and Tang (1993), Table 1; and 1992 data from Rasell and Tang (1994), Table 1. All amounts adjusted to 1992 dollars using the CPI-U-X1. The average share of income is the weighted average of each family's share.

7.3 *Insurance Status of People Who Did or Did Not Have Problems Paying Medical Bills.* Blendon et al. (1994), p. 950 and Table 1.

7.4 *Characteristics of People Who Had Problems Paying Medical Bills.* Blendon et al. (1994), Table 4, p. 951.

7.5 *Sources of Health Insurance Coverage.* Employee Benefit Research Institute (1994), Table 1, p. 5; and author's calculations for insurance coverage of children based on Employee Benefit Research Institute (1994), Table 2, p. 6.

7.6 *People Uninsured at Some Time During the Year.* Swartz (1994), p. 65; and Short (1992), Table 3, p. 3.

7.7 *Duration of Spells Without Insurance.* McBride (1994), Figure 1, p. 18.

7.8 *Primary Source of Health Insurance for Workers Under Age 65, by Demographic Category.* CBO (1994), Table 3, p. 9.

7.9 *Participation in Employer-Sponsored Insurance Plans.* BLS, *Employee Benefits in Medium and Large Establishments* (various years); *Employee Benefits in Small Private Establishments* (1991, 1994); and *Employee Benefits in State and Local Governments* (1992, 1994), Table 1.

7.10 *Uninsured Nonelderly Population, by Work Status of Family Members.* Employee Benefit Research Institute (1994), Table 7, p. 26.

7.11 *The Nonelderly Uninsured.* Employee Benefit Research Institute (1994), Table 14, p. 33; Table 15, pp. 34-35; Table 18, p. 41; and Table 24, pp. 50-51.

7.12 *Relative Probability of Death, Uninsured Compared to Privately Insured Patients, by Sex, Age, and Race.* Hadley, Steinberg, and Feder (1991), Table 2, p. 376, and Table 6, p. 378. Null hypothesis is that the relative probabilities are equal. The regression analyses controlled for hospital ownership (public, private), type of community (100 largest cities, other metro, nonmetro), and teaching hospital (yes/no). Model of probability of in-hospital death controlled for Medicare case mix and whether a surgical procedure was performed.

7.13 *Infant Mortality Rate.* Organization for Economic Cooperation and Development (1993), Vol. 1, Table 3.2.6, p. 69.

7.14 *Low Birth Weight (Less Than 5.5 lbs.).* Organization for Economic Cooperation and Development (1993), Vol. 1, Table 3.2.7, p. 70.

7.15 *Infant Mortality, United States, by Race.* National Center for Health Statistics, (1994), Table 20, p. 82.

7.16 *Life Expectancy.* Organization for Economic Cooperation and Development (1993), Vol. 1, Tables 3.1.1–3.1.8, pp. 54-61.

7.17 *Death Rates Among Persons Age 25-64 in Selected Education and Income Groups, by Race and Sex.* Pappas et al. (1993), Table 1, p. 106.

7.18 *Death Rates Among Whites Age 25-64, by Sex and Education.* Pappas et al. (1993), Figure 4, and communication with Susan Queen.

7.19 *Five-Year Relative Cancer Survival Rates by Race and Sex.* National Center for Health Statistics (1994), Table 68, p. 152.

7.20 *Satisfaction With the Health Care System, Selected Industrialized Countries.* Blendon et al. (1990), Exhibit 2, p. 188.

7.21 *Comparative Availability of Selected Medical Technologies.* Rublee (1989), Exhibit 1, p. 180.

7.22 *Cost of Health Care Administration in the United States and Canada.* Woolhandler and Himmelstein (1991), Table 1, p. 1255. In this article, the exchange rate (C$1.33 to the U.S. dollar) is used to convert Canadian dollars to U.S. dollars. This table uses the PPP for GDP (1.3), which was essentially the same as the exchange rate.

7.23 *Physician Earnings, Major Industrialized Countries.* Physician earnings from Organization for Economic Cooperation and Development (1993), Vol. 1, Table 4.5.3, p. 156; average compensation per employee from Organization for Economic Cooperation and Development (1993), Vol. 2, Table A1.2.12, p. 43. Average compensation per employee does not adjust for the differing shares of each country's labor force that work part time.

7.24 *Medical-Specific Inflation.* Organization for Economic Cooperation and

Development (1993), Vol. 1, Table 3, p. 24.

7.25 *Utilization Rates, Selected OECD Countries.* Schieber, Poullier, and Greenwald (1993), Exhibit 5.

7.26 *Cost Sharing and Total Health Expenditures, Major Industrialized Countries.* Schieber, Poullier, and Greenwald (1992), pp. 1-15. Information on cost sharing in Canada is from Robert G. Evans, Canadian Institute for Advanced Research, Toronto, Canada.

Chapter 8

8.1 *Per Capita GDP Growth in Nine Countries.* GDP stands for "gross domestic product," and is essentially the total of all money received for goods and services produced in the economy in a single year. It is not exactly the same thing as gross national product, or GNP, which is total money received from all productive sources, because CNP also includes net investment income from abroad. However, the differences between GDP and GNP are usually very small, which is why GDP per capita is commonly used as an indicator of national living standards. Real GDP comes from BLS Supplementary Tables (1994), civilian employment comes from U.S. Department of Labor, *Monthly Labor Review* (May 1994, p. 116), and total population comes from OECD (1994), pp. 154-55. Ideally, this type of decomposition would use only the adult population, since this is the relevant population when examining labor-market participation. However, international data on adult populations were not readily available. At any rate, the findings would be similar.

8.2 *Productivity Growth Rates.* Civilian employment levels are from U.S. Department of Labor, *Monthly Labor Review* (May 1994), p. 116. Real GDP comes from OECD (1994b).

8.3 *International Compensation Growth per Employee, Business Sector.* OECD (1993), pp. 136 and 140. CPI-U-X1 was used for United States.

8.4 *Hourly Manufacturing Compensation Growth.* The consumer price index listed in International Monetary Fund (1993) was used to deflate hourly compensation in all countries except the United States. We deflated U.S. compensation growth using the CPI-U-X1. Data for all manufacturing employees are from U.S. Department of Labor (1993); data for production workers in manufacturing are from U.S. Department of Labor (1993), various countries.

8.5 *Manufacturing Hourly Compensation Compared (Using Purchasing-Power Parities).* Exchange rates are from OECD (1994), pp. 155-56. Source of compensation data same as Table 8.4.

8.6 *Manufacturing Hourly Compensation Compared (Using Market Exchange Rates).* See note, Table 8.5.

8.7 *Per Capita Income Compared to U.S.* OECD (1994b), pp. 144-45.

8.8 *Family Income Distribution: Percent of the Median.* Atkinson, Rainwater, and Smeeding (1994), Table 2. Income is post-tax and post-cash transfer.

8.9 *Income Distribution: Changes in Percent of the Median Over the 1980s.* Atkinson, Rainwater, and Smeeding (1994), Table 5. Income is post-tax and post-cash transfer.

8.10 *International Educational Differentials for Males Over the 1980s.* OECD (1993b), p. 171 and, for West Germany, Abraham and Houseman (1994), Table 2. Except for the Netherlands and West Germany, all figures control for age or experience.

8.11 *International Poverty Statistics.* Smeeding (1992), p. 31. The poverty thresholds used are 40% of the median income in the relevant country, adjusted for family size. Income is post-tax and post-transfer, and includes the value of food stamps.

8.12 *The Impact of Taxes and Transfers on International Poverty Rates.* Smeeding (1992), p. 33.

8.13 *Tax and Transfer System Effectiveness.* Smeeding (1992), p. 34.

8.14 *Poverty Rates and Transitions Out of Poverty for Families With Children.* Duncan et al. (1991), Table 1.

8.15 *Jobs Created in 10 Countries.* Civilian employment from U.S. Department of Labor, *Monthly Labor Review* (July 1986), p. 96, and May 1994, p. 116.

8.16 *Contributions to Employment Growth in 10 Countries.* Population from OECD (1994b), pp. 154-55. Ideally, this type of decomposition would use only the adult population, since this is the relevant population when examining labor-market participation. However, international data on adult populations were not readily available. At any rate, the findings would be similar.

8.17 *Hours Worked per Employee in Manufacturing, Compared to the U.S.* U.S. Department of Labor (1993).

8.18 *Paid Vacation in European Countries.* Leete-Guy and Schor (1992), p. 19.

8.19 *Public Spending on Training and Placement, Direct Job Creation, and Subsidies, as Percent of GDP.* OECD (1993b), pp. 73-77.

8.20 *Unemployment Rates in OECD Countries.* OECD (1994a), p. 203.

8.21 *Unemployment and Unemployment Compensation.* OECD (1993b), pp. 73-77.

FIGURE NOTES

Introduction

A *Productivity and Average and Median Compensation.* Data on productivity and average compensation are from *ERP* 1994, Table B-47, p. 322. Productivity is output per hour in the nonfarm business sector. Compensation is nominal compensation per hour, in the same sector, deflated using the CPI-U-X1. Median compensation and median male compensation are the median hourly wage series developed for Tables 3.6 and 3.7, converted to hourly compensation by applying the ratio of compensation to wages and salaries from *NIPA*, Tables 6.2 and 6.3.

Chapter 1

1A *Median Family Income.* See note to Table 1.1.

1B *Annual Growth of Median Family Income.* See note to Table 1.2.

1C *Ratio of Family Income of Top 5% to Lowest 20%.* Data for 1947-89 from *P-60 Series,* No. 184, Table B6; 1993 data from *P-60 Series,* No. 188 (unpublished).

1D *Income Growth Among the Top Fifth and by Fifth.* See note to Table 1.9.

1E *Shares of Aggregate Income Growth Among Top Fifth.* See note to Table 1.12.

1F *Capital Gains' Share of Market Income.* Internal Revenue Service, Statistics of Income Bulletin Historical Tables (1983, 1985-86, 1986, 1989, 1992, 1994).

1G *Distribution of Labor and Capital Incomes, Top 20%.* See note to Table 1.17.

1H *Actual Mean Income vs. Demographic Constant Mean Income.* See note to Table 1.20.

1I *Working Wives' Contribution as Median Percent of Family Income.* Data for 1970-71 from Howard Hayghe (1993), Table 3; data for 1992 from communication with Mr. Hayghe.

1J *Percent Growth in Annual Hours Worked by All Wives.* See note to Table 1.25.

1K *Growth in Family Income by Wives' Higher Earnings.* See note to Table 1.27.

1L *Family Income by Age of Householder.* See note to Table 1.3.

1M *Median Family Income by Cohort and Age.* See note to Table 1.32.

1N *Percent of Prime-Age Persons With Income Loss of 25% or More.* See note to Table 1.35.

Chapter 2

2A *Federal Tax Burden.* See note to Table 2.7.
2B *Personal Income Tax Burden.* See note to Table 2.9.
2C *Corporate Tax Burden.* See note to Table 2.9.
2D *Excise Tax Burden.* See note to Table 2.9.
2E *Taxed and Untaxed Corporate Profits as a Percent of GDP.* See note to Table 2.11.
2F *Corporate Profit Taxes.* See note to Table 2.12.
2G *Total Tax Receipts as a Percent of GDP.* Bakija and Steuerle (1991), Table A1.
2H *Federal Revenue Sources.* See note to Table 2.14.
2I *State and Local Revenue Sources.* See note to Table 2.14.

Chapter 3

3A *Real Hourly Earnings of Production and Nonsupervisory Workers.* See note to Table 3.3.
3B *Blue-Collar and White-Collar Workers' Wages.* See note to Table 3.5.
3C *Wage Inequality for Men.* Based on annual data comparable to those presented in Table 3.7.
3D *Wage Inequality for Women.* Based on annual data comparable to those presented in Table 3.8.
3E *Percent of Workers Earning Poverty-Level Wages.* See note to Table 3.10.
3F *Percent of Workers Earning Poverty-Level Wages, by Race/Ethnicity.* See notes to Tables 3.11, 3.12, and 3.13.
3G *Hourly Wages by Education.* See note to Table 3.18.
3H *College/High School Wage Premium.* See note to Table 3.17.
3I *Entry-Level Wages for High School Graduates.* See note to Table 3.23.
3J *Relationship Between Hourly Wage and Mathematics Score, by Cohort, Six Years After High School Graduation.* See note to Table 3.27.
3K *Pay in Expanding and Shrinking Industries.* See note to Table 3.31.
3L *Trade-Induced Changes in the Manufacturing Labor Supply.* See note to Table 3.32.
3M *Union Coverage.* Dinardo et al. (1994), Table 1, p. 53.
3N *Union Pay Premiums.* See note to Table 3.36.
3O *Real Value of the Minimum Wage.* See note to Table 3.42.
3P *Real Growth in Executive After-Tax Pay.* See note to Table 3.52.
3Q *Change in Compensation Due to Occupational Shifts.* Based on the effect of a changing mix of employment among 13 occupations using a shift-share analysis. Employment data for 1972-82 from *Employment and Earnings,* January 1984. Data for 1983 to 1993 from electronic data provided by Earl Mellor, BLS. Relative wages are based on the CPS wage series from 1979 to 1993. Hourly compensation by occupation was computed as the ratio of hourly compensation to payroll wages (obtained from March 1994 ECI data) times the hourly wage. See note to Table 3.2 for definitions.

Chapter 4

4A *Real Rates of Underemployment.* See note to Table 4.2.

4B *Employment in the Current Recovery vs. Previous Recoveries.* See note to Table 4.4.

4C *Private-Sector Jobs Created in the Recovery.* See note to Table 4.10.

4D *Composition of Part-Time Employment.* See note to Table 4.2.

4E *Partially or Fully Paid Medical Benefits Offered to Employees, by Full- or Part-Time Status.* Hewitt Associates Survey as in Callaghan and Hartman (1991), Figure 13, p. 16.

4F *Multiple Jobholders' Share of the Workforce.* See note to Table 4.18.

4G *Temporary and Personnel-Services Industry Employment.* See note to Table 4.23.

Chapter 5

5A *Growth of Household Wealth per Adult.* See note to Table 5.1.

5B *Distribution of Income and Wealth.* See note to Table 5.2.

5C *Distribution of Wealth.* See note to Table 5.6.

5D *Net Worth by Wealth Class.* See note to Table 5.8.

5E *Share of Growth by Wealth Class.* See note to Table 5.8.

Chapter 6

6A *Predicted vs. Actual Poverty Rates.* See note to Table 6.1.

6B *Poverty Rates by Price Index.* CPI-U-X1 rates to 1989 from *P-60 Series*, No. 171; 1990-92 from authors' communication with the Bureau of the Census; 1993 data from *P-60 Series*, No. 188 (Excerpt), Tables C and O.

6C *Persistent Poverty in Industrialized Countries: Households With Children.* McFate (1991), Figure 2.

6D *Poverty Before and After Transfers: Elderly vs. All Persons.* See note to Table 6.12.

6E *Expected Lifetime Births by Marital Status and Race.* See note to Table 6.19.

6F *Poverty Before and After Transfers: Families With Children.* Danziger and Weinberg (1992), Tables 2 and 7.

6G *Demographic and Benefit Sum Trends.* Moffitt (1992), Figure 4. Data brought forward to 1989 from *P-60 Series*, 1981-89 (Births to Unmarried Women). Added data for benefit sum are from *Green Book* (1992), pp. 1210-11.

6H *AFDC Participation Rates.* See note to Table 6.21.

6I *Prime-Age Workers with Low Earnings and Full-Time/Year-Round Attachment.* Data for 1974-89 from *P-60 Series*, No. 178, Table 3, p. 21. Data for 1989-93 from unpublished Census tables.

6J *Workers in Families With Children, With Low Earnings and Full-Time/Year-*

Round Attachment. Data for 1974-89 from *P-60 Series,* No. 178, Table 3, p. 21. Data for 1989-93 from unpublished Census tables.

6K *Earned Income Tax Credit, 1994, and Fully Phased-in Expansion (OBRA93).* John Karl Scholz (1993).

Chapter 7

7A *National Health Expenditures as a Share of GDP.* Data for 1960-90 from Donham et al. (1992), Table 16, p. 199; data for 1991 from Letsch et al. (1992), Table 13, p. 18; data for 1992-2000 from Turner et al. (1992), Table 7, p. 14.

7B *Health Care Expenditures per Capita Compared to GDP per Capita.* Health care expenditures from Organization for Economic Cooperation and Development (1993), Vol. 1, Table 4.1.1, p. 108; population from Organization for Economic Cooperation and Development (1993), Vol. 2, Table 1.1.1, p. 11; GDP and PPPs from Organization for Economic Cooperation and Development (1994), Vol. 1. The trend line minimized the unweighted sum of squared errors.

7C *Family Average Expenditure for Health Care as a Share of Family Income, by Quintile.* Rasell and Tang (1994), Table 1. Average expenditure as a percent of income is the weighted average of each family's share.

7D *Life Expectancy at Birth and Age 65, by Sex and Race.* National Center for Health Statistics (1994), Table 27, p. 91.

Chapter 8

8A *Productivity Growth Rates.* See note to Table 8.2.

8B *Hourly Manufacturing Compensation, Real Annual Growth.* See note to Table 8.3.

8C *Comparative Manufacturing Hourly Compensation.* See note to Tables 8.4 and 8.5.

8D *Male Wages at the 10th Percentile, Indexed to the United States.* Richard Freeman (1993), p. 28, Exhibit 2B.

8E *Income Dispersion, as Measured by the Ratio of Top/Median Income to Bottom/Median Income.* See note to Table 8.7.

8F *Wage Percentiles for Men, in Selected Industrialized Countries.* OECD Employment Outlook, July 1993, Table 5.3, pp. 163-65.

8G *Wage Percentiles for Women, in Selected Industrialized Countries.* OECD Employment Outlook, July 1993, Table 5.3, pp. 163-65.

8H *Impact of Taxes and Transfers on Poverty Rates.* See note to Table 8.10.

8I *Poverty Rates and Transitions Out of Poverty, Families With Children.* See note to Table 8.12.

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